

# **AN INVESTIGATION ON THE USE OF SIGN LANGUAGE AND ORAL LANGUAGE BY REGULAR TEACHERS TEACHING HEARING IMPAIRED CHILDREN**

*A study at one of the inclusive schools in Lusaka, Zambia.*

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## ABSTRACT

The transition to inclusive education is not a technical or organisational change but a movement in a clear philosophical direction, as the definitions of inclusive education clearly indicate. Therefore, it is crucial to develop principles which will guide the process of change. International declarations and conventions, such as the UNESCO definition for inclusive education, have to be interpreted in the light of local circumstances. What does this mean in my country? And further, national definitions need to be translated into different contexts with the country.

Abiding by the Salamanca Statement inclusive education, Zambia undertook a pilot project on inclusive education in 1997 in Kalulushi District which recognised and appreciated that inclusive education was and :

- Essential to human dignity.
- Brought about equalization of opportunities for all children.
- Reflected societies as a democratic institution where all members have rights, possibilities, opportunities and responsibilities.
- Recognizes and appreciates diversity of human capacity.

From this project Zambia has embraced inclusive education when it was introduced to the four districts of Zambia.

Following the above perspective a study was conducted in an attempt to investigate how the regular teachers manage to teach these children. The focus of the study was to investigate the approaches of communication the regular teachers use in class. For this study qualitative method and purposeful sampling was applied.

Case study design was used to explore, describe and investigate the communication approaches in the teaching and learning settings between the regular teachers and hearing impaired pupils. Data collected was through interview method.

The findings of the study show that all the teachers who participated in the study lacked the proper methods of communicating when teaching in class. Also the findings indicated that the teachers lacked in-service training, though the results showed positive towards inclusion of children in regular classrooms, among the main reasons given by the teachers was lack of knowledge and skills on how to communicate when teaching children with hearing impairments. They lack teaching aids like appropriate texts books which have both written illustrations in sign language, support pictures when teaching, maps or diagrams etc. which would make their teaching to be line with the hearing children. Lack of motivation teachers are lowly paid compared to their counterparts who have special education training. Based on the findings recommendations were made that is regular teachers should be trained and empowered in sign language and oral language skills, there is need for development of sign language syllabus and it should be taught as a school subject to all the children in the school. This is to enrich and promote dialogue, communication and make inclusion practical for children with hearing impairment.

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Busuma, Agatha, and Kabwe sisters Joy, Maria, Jossy brother Bonny, for having endured my long deprivation of love, comfort and company from home, and for the encouragement and support given to me to complete my programme in Norway.

## **Dedication**

**I dedicate this thesis to**

**Steve my husband**

**And our two children Busuma and Agatha whose loving support  
provided a firm foundation for what I am now.**

## Acronyms

ASL	American Sign Language.
EFA	Education For All.
MOE	Ministry Of Education.
NGOs	Non- Governmental Organisations.
SEN	Special Needs Education.
UNESCO	United Nations Educational, Scientific and Cultural Organisation.
UN	United Nation.
WFD	World Federation of the Deaf.
ZNAD	Zambia National Association for the Deaf.
ZAMISE	Zambia Institute of Special Education.



# Table of contents

<b>ABSTRACT .....</b>	<b>I</b>
<b>ACKNOWLEDGEMENT .....</b>	<b>III</b>
<b>DEDICATION .....</b>	<b>V</b>
<b>ACRONYMS.....</b>	<b>VI</b>
<b>TABLE OF CONTENTS .....</b>	<b>VII</b>
<b>LIST OF TABLES.....</b>	<b>X</b>
<b>1. BACKGROUND OF HEARING IMPAIRMENT .....</b>	<b>1</b>
1.1 RESEARCH TOPIC.....	1
1.2 RESEARCH PROBLEM .....	2
1.3 PROFESSIONAL REASON FOR CHOICE OF STUDY .....	3
1.4 BACKGROUND OF ZAMBIA.....	4
1.5 EDUCATION IN ZAMBIA .....	4
1.6 THE DEVELOPMENT OF SPECIAL EDUCATION IN ZAMBIA .....	5
1.7 EDUCATION IN ZAMBIA FROM PRE-COLONIAL TO THE POST- COLONIAL PERIOD.....	6
1.8 EDUCATION IN ZAMBIA IN GENERAL AT PRESENT .....	8
1.9 EDUCATION ACT AND POLICY .....	9
1.10 LAWS AND LEGISLATION .....	11
1.11 PRESENT SITUATION ON HEARING IMPAIRMENT.....	13
1.12 ORGANISATION OF THE THESIS .....	14
<b>2. CHILDREN WITH HEARING IMPAIRMENT AND EDUCATION .....</b>	<b>17</b>
2.1 HEARING IMPAIRMENT-DEFINITION OF TERMS.....	17
2.2 CLASSIFICATION OF HEARING IMPAIRMENT.....	19

---

2.3 EDUCATIONAL CONSIDERATIONS .....	20
2.4 MODES OF COMMUNICATION .....	22
2.4.1 <i>The oral method (or Auditory-oral approach)</i> .....	23
2.5 TOTAL COMMUNICATION .....	25
2.6 SIGN LANGUAGE.....	27
2.6.1 <i>Manual approach</i> .....	29
2.6.2 <i>Sign languages' relationships with oral languages</i> .....	31
2.7 WHAT IS SIGN BILINGUALISM? .....	33
2.8 INCLUSIVE EDUCATION/SCHOOLING .....	36
2.8.1 <i>The origin of inclusive schools</i> .....	36
2.8.2 <i>Why Inclusion?</i> .....	37
2.8.3 <i>Inclusive education in Zambia</i> .....	39
2.8.4 <i>Inclusion as an Internationally Recognised Policy</i> .....	39
2.9 CONCLUSIONS .....	41
<b>3. RESEARCH METHODOLOGY .....</b>	<b>43</b>
3.1 RESEARCH DESIGN FOR THE PRESENT STUDY .....	43
3.2 POPULATION AND SAMPLING. ....	44
3.3 SAMPLING PROCEDURE .....	46
3.4 RESEARCH INSTRUMENT .....	47
3.5 PILOT TEST.....	48
3.6 INTERVIEWS.....	49
3.7 DATA COLLECTION .....	50
3.7.1 <i>Transcription of the interviews</i> .....	51
3.8 PERMISSION TO CONDUCT THE RESARCH.....	51

---

3.8.1 <i>Introductory visits</i> .....	52
3.9 ETHICAL CONSIDERATIONS.....	52
3.10 VALIDITY AND RELIABILITY OF DATA .....	53
3.10.1 <i>Factors that may have threatened validity and reliability of the data.</i> .....	55
3.11 LIMITATIONS OF THE STUDY .....	56
<b>4. DATA ANALYSIS AND PRESENTATION .....</b>	<b>59</b>
4.1 BACKGROUND INFORMATION .....	59
4.2 IN-SERVICE TRAINING .....	60
4.3 ORAL AND SIGN LANGUAGE METHOD .....	63
4.4 SITTING ARRANGEMENT OF HEARING IMPAIRED PUPILS IN THE CLASSROOM.....	67
4.5 TEACHING AIDS/ PROVISION OF RESOURCES .....	70
4.6 KNOWLEDGE ABOUT HEARING IMPAIRMENT AND VIEWS ABOUT INCLUSION .....	72
4.7 TEACHERS' MOTIVATION .....	73
4.8 CONCLUDING REMARKS.....	75
<b>5. DISCUSSION OF FINDINGS, CONCLUSION AND RECOMMENDATIONS .....</b>	<b>77</b>
5.1 COMMUNICATION .....	77
5.2 TEACHING AIDS/PROVISION OF RESOURCES .....	79
5.3 CLASSROOM ACOUSTICS EQUIPMENT AND MATERIALS .....	79
5.4 SITTING ARRANGEMENT IN CLASS .....	80
5.5 KNOWLEDGE ABOUT HEARING IMPAIRMENT AND VIEWS ABOUT INCLUSION.....	81
5.6 MOTIVATION .....	82
5.7 SUMMARY OF RECOMMENDATIONS: .....	84
5.8 CONCLUDING REMARKS.....	85
<b>REFERENCES .....</b>	<b>86</b>

---

<b>APPENDICES .....</b>	<b>92</b>
APPENDIX 1 A LETTER OF COOPERATION FROM THE UIO .....	92
APPENDIX 2 REQUEST OF PERMISSION TO CONDUCT RESEARCH.....	93
APPENDIX 3 LETTER OF PERMISSION FROM THE MINISTRY OF EDUCATION.....	94
APPENDIX 4 REQUEST FOR INTERVIEW .....	95
APPENDIX 5 AMERICAN ONE-HANDED MANUAL ALPHABET .....	96
APPENDIX 6 SITTING ARRANGMENT FOR HEARING IMPAIRED PUPILS .....	97
APPENDIX 7 INTERVIEW GUIDE FOR REGULAR TEACHERS .....	98

## List of Tables

Table 1: Teachers` background information.....	59
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# **1. Background of Hearing impairment**

The inclusion of children with special needs in regular schools has now become an integral part of the comprehensive United Nations Education for All Programs (Mitler; in Peter Clough & Jenny Corbet, 2000). In Zambia, the education policy states that education is a right for every individual regardless of personal circumstance or capacity (Ministry Of Education, 1996). This is based on the principle that all individuals are equal and as a matter of fairness, education should thus be available to all. The government aims at enhancing the well being of each individual and the uplifting of life of society as a whole. This is also in line with the Salamanca Statement and Framework for Action on Special Needs Education, which formed the on the principle that schools should accommodate all children regardless of their physical, intellectual, social, emotional, linguistic or other conditions (UNESCO, 1994).

Inclusive education has been introduced in some schools in Zambia following the above declarations. In Lusaka district Zambia is one of the High School with children with hearing impairments, the visual impairments and the ordinary hearing children. My area of interest is to investigate how regular teachers teach the hearing impaired in class. What modes of communication they use in class. What knowledge background they have concerning hearing impairment?

## **1.1 Research Topic**

The research topic for this study is as investigation on the use of sign language and oral language by regular teachers teaching hearing impaired pupils in ordinary classes. A study at one of the inclusive schools in Lusaka Zambia.

## 1.2 Research problem

The study aims at investigating to what extent do teachers use sign language and oral language approaches when teaching hearing impaired children and how does the physical environment and teacher support have an impact on the teaching?. The implication of this is that the education system has recognized the importance of including children with special needs in the main stream (Ministry of Education, 1996).

In many Zambian regular schools, children with hearing impairment are being included in regular classes as stated in the education policy (ibid). An implication of this is that the education system has recognized the importance of including children with special needs into the main stream.

The study investigated teacher's knowledge on sign language and oral language methods, which mode or methods they used when teaching pupils with hearing impairment.

The study focused on the following questions:

1. To what extent do regular teachers use sign language and oral language when teaching?
2. What are the attitudes of regular teachers towards inclusion of children with hearing impairment in regular classes?

The term regular teachers in this study refer to teachers without any specific formal education in special education.

### 1.3 Professional Reason for choice of study

The choice of my study is as a result of my many years of teaching at different levels of the education system in Zambia. I taught as school teacher a primary for three years and I taught pupils with hearing impairments for seventeen years, now senior lecturer in special education at National In-service Teachers Training College. This experience gives me the ability to identify the problem, which regular teachers are facing when teaching pupils with hearing impairment in regular classes.

It was during my monitoring of teachers in schools in Zambia when I noticed that pupils with hearing impairment at one of the High schools with hearing impaired children that they were not learning as the hearing children this was due to the lack of knowledge on sign and oral language skills the teachers were facing problems in communicating with hearing impaired children, thus the researcher noticed numerous challenges faced by the regular teachers. An interview carried out showed that the teachers lacked the methodology of teaching pupils with hearing impairment.

In Zambia, very few studies have been conducted in the use of sign and oral methods in regular schools. Regular teachers have no knowledge of understanding on how they can teach the hearing impaired pupils in regular classrooms as a result the performance of these pupils is below average, teachers lack in training in sign language and oral language and facilities such as educational materials are not available.

This has given me the motivation to carry out this study. It is hoped that the study will provide some information on the teaching of sign language and oral language to pupils with hearing impairment included in inclusive settings.

## 1.4 Background of Zambia

Zambia is located in Central Africa, the capital city is Lusaka. It is a landlocked country covering an area of 752,612 square kilometers (about 2.5 percent of Africa). It shares borders with the Democratic Republic of Congo (DRC) and Tanzania in the north; Malawi and Mozambique in the east; Zimbabwe and Botswana in the south; Namibia in the southwest and Angola in the west. It has a population of 11 million people. There are nine (9) provinces with seventy-four districts. It has always been run under a Westminster style of government, and since the early 1990's we have seen the creation of a good healthy multi-party democracy. Life expectancy is between 35-35 years. Its economic activities are mainly based on mining, agriculture and tourism. The country relies, to a greater extent, on support from western countries. Despite the low economic base, there has been a substantial increase in resource allocation to public expenditure over the last decade. Areas of high priority are education, good governance, modernization of agriculture, roads infrastructure and improving the quality of life of every citizen through the provision of basic services. Education sector has secured an increasing share of the national budget in the last five years.

## 1.5 Education in Zambia

Since inception of Zambia's independence in 1964, the guiding principle has been that human life is precious regardless of race, tribe, creed, status or ability (MOE, 1996). The central point in the humanistic approach has been the importance and worth of an individual.

Therefore it has been Zambia's long-standing educational goal to have every child who enters grade one to be in school for nine years. This aspiration goes back to the time of struggle for independence when the nationalist movement established the goal to have every Zambian child complete at least nine years of junior secondary and



high school education (ibid). By every child it means all children in Zambia and therefore it does not exclude children with hearing impairment. This is done in conformity with the fundamental human rights, which were formally acknowledged and proclaimed under the United Nations Universal Declaration on Education For All in 1990. The declaration stressed that more effort should be made towards achieving the various specific needs of education in the subsequent years (UNESCO, 1990).

As a sign of the country's commitment to acknowledge and uphold the principle of Education for All (EFA) that constitute the basic policy on education world wide, some policies for special needs education have been enacted. More special education teachers are being trained at Zambia Institute of Special Education (ZAMISE) and other teacher training colleges where special education course is being included in the course. (ibid).

## 1.6 The Development of Special Education in Zambia

In the years up to the 1950s, it was common practice for parents to hide children who had disabilities in their homes because of the attitudes and the beliefs people had towards these children. Generally people believed that having a child with a disability was a curse from God or some other super power or that the child brought bad omen on the parents and the entire family (Kalabula, 1998). Children with special needs were considered to have bad omen or spirits as such parents did not expose these children to the community as it brought shame and embarrassment on them.

In 1995, there were 31 special schools and 80 units in primary and secondary schools. The population of pupils with special needs in special schools and units was about 2000. The number of children with special needs increased from 0.1% in 1990 to 1% in 1995. Currently, special education provision is offered to the visually, hearing, physically and the mentally challenged.

However, education of the deaf did not start until in the late 1950s. This was when the first class was established at Magwero Special School. In relation to the special needs education, it was, as probably would be expected when resources were limited, worse off ordinary education. It was a situation of doing without except for the little that was provided exclusively voluntary missionary agencies, which mainly focused on the visually and hearing impaired (Kalabula 1989; Katwishi 1995). The African Reformed Church (formerly the Dutch Reformed Church) opened the first school for the visually impaired in 1995 at Magwero in Chipata (Eastern Province of Zambia) as well as a school for hearing impaired.

In 1971, education for children with special needs became the responsibility of the Ministry of Education. The special education inspectorate was established. The establishments of units in regular schools also spread to all schools in the provinces. The government also took a step further by taking under control all schools previously started by the missionary agencies and turned them into government-aided institutions. Since most of the teachers in the field were untrained, government also established the Zambia Institute on Special Education (ZAMISE) to train teachers for special needs education (Ibid).

## 1.7 Education in Zambia from Pre-colonial to the Post-colonial period

According to Mwanakatwe (1974), education in Zambia is divided into three main sections: Traditional education in Pre-colonial, Western education during colonial period and Education after independence.

Before the imposition of colonial rule, the territory that is now Zambia formerly Northern Rhodesia, was made up of a number of separate and independent states, chiefdoms, each with its own political organization, language and culture. In terms of cultural orientation and institutions, similarities as well as differences existed across

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pre-colonial societies. However, one of the most features characterising each of these societies was the existence of an effective system of traditional education which was distinctively different from modern form of education in terms of its organisation, Its functions, content, methodology, clientele and educational agents. Children with hearing impairments were not considered in the education system in those days. There were no schools for them. These children were considered to be out casts.

The early missionaries who came first to Zambia thought that they were the first to bring education to Zambians who were without education. But education is widely explained as “what happens to us from the day we are born to the day we die”, or a “preparation for living in the society into which we are born” (Snelson, 1974).

All races, no matter how primitive they have been, have had a system of education, which has enabled them to master their environment. This cannot be introduced into society from outside (Mwondela, 1972:4). This was the time of African societies in Zambia before the advent of missionaries.

Traditional education showed a number of salient characteristics. It was life long process, that it was never completed. It begins at birth and ends at death. It was broad in scope and functions as well as in terms of its goals and the means it employed. It was collective and social in nature. Each society had its own education which it used as a means whereby the older generations transmits its wisdom, experience and culture to the young generation to ensure its survival. (Msango, 2000).

Traditional education put big emphasis on practical learning. It stressed the concrete although the abstract was not necessarily neglected. The young generation learned by watching, participating and exulting little jobs that immediately became useful to the family and the community. It was both theoretical and practical and its methods were both informal and formal. Therefore to the extent that traditional education

contributed to the preparation of boys and girls for living in society, and to the survival of the society in which it was found, there was education in Zambia and it was education in every sense of the word. (Kelly, 1999).

## 1.8 Education in Zambia in general at present

Education in Zambia is considered as a right for each child. It is a way of promoting the well being and quality for the whole Zambian society. The Zambian government's responsibility in education arises from its overall concern to protect the rights of individuals, promote social well-being and achieve a good quality of life for every person through all embracing, economic development.

Education is intended to serve individual, social economic well being, and to enhance the quality of life for all. The aim is guided by the principle of liberalization, decentralization, equity, partnership, and accountability. (MOE)

The Ministry of Education (MOE) has set goals of education system as (1) producing a capable learner; (2) increasing access to education and life skills training; (3) building capacity for the provision of quality education; (4) creating condition for effective coordination of policies, plans and programmes, and rationalizing resource mobilization and utilization (ibid). Pupils with hearing impairment are also having access to free education, but despite the free education they still lack teachers who are have the methodology sign and oral language in these regular schools. The provision of quality of education and building capacity is just on paper for children with hearing impairment.

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## 1.9 Education Act and Policy .

The first major educational policy pronouncements pertaining to special education in Zambia are contained in Educational Reform (GRZ 1977) This policy emphasized education as an instrument for personal and national development. In relation to Special Needs Education, the document states the following:

"All handicapped children like any other children are entitled to education. They should receive basic and further education by fulltime study as any other children. Further, since the handicapped children are special case, there should even be 'positive discrimination' in their favour in the provision of facilities and amenities for educational purposes. (GRZ 1977: 25)"

While the 1977 policy had obvious positive intentions in favour of children with special educational needs, It somehow reflected the medical model because its concern was more on the *difference principle* between the disabled and the so-called *any other children*. There was no mention as to whether their right to a full time education should be provided in the ordinary schools. In other words, it was implied in the policy that the disabled children were to be treated differently because they were a *special group*.

The second major educational document was Focus on learning (1992). It emanated from the World Declaration on Educational for All that ensued from the World Conference on Education For All in 1990 in Jomtien, Thailand. The conference, stressed the importance of access to educational opportunities as it emphasizes that "every person-child, youth and adult shall be able to benefit from educational opportunities designed to meet their basic learning needs" (Art.1).

The 1992 policy therefore stressed the mobilization of resources for the development of school education for All including children with special educational needs.

The third major educational policy document as already referred to above: Educating Our Future (1996) was a product of lengthy and broadly based consultation process involving other line ministries, international donors, NGOs and the universities. This policy document addresses the entire field of formal institutional education, paying particular attention to democratization, decentralization and productivity on the one hand, and curriculum relevance and diversification, efficient and cost-effective management, capacity building, cost sharing, and revitalized partnerships on the other.

Flexibility, pluralism, responsiveness to needs, and the protection of quality are recurrent themes.

In relation to pupils with Special Educational Needs, the following policy statements are outlined:

- I. The Ministry of Education will ensure equality of educational opportunity for children with special educational needs.
- II. The Ministry is committed to providing education of particularly good quality to pupils with special educational needs.
- III. The Ministry will improve and strengthen the supervision and management of special education across the country.(ibid)

To achieve the above, the policy document mapped out the following strategies:

- I. Working closely with the Ministry of Health, Ministry of Education will decentralize services for the identification, assessment and placement of children with special educational needs. (ibid)
- II. To the greatest extent possible, the Ministry will integrate pupils with special educational needs into mainstream institutions and will provide them with

necessary facilities. However, where need is established, the Ministry will participate in the provision of new special schools for the severely impaired.

III. The Ministry will cooperate with private, religious, community and philanthropic organizations in:

IV. Meeting the special educational needs of exceptional children, and

- Providing outreach services for children whose impairments prevent normal attendance in school.
- The Ministry will enlarge and decentralize the special education inspectorate.

V. Planning for special education provision will be built into the Ministry's mainstream strategic planning and in support of this the information system on special education and national needs in this area will be improved.(ibid).

The third policy (Educating Our Future) document definitely marked an important advance compared to the other two. With reference to special needs education, it categorically endorsed the integration of children with special educational needs in mainstream education, which is in line with current thinking. And by so-doing, it sets the scene for the realization of inclusive education in Zambia.

## 1.10 Laws and Legislation

There are no laws and legislation about special needs education. The regulations and educational policy covering general education apply to special needs education in Zambia. Mayor (1994) states that 'special needs education cannot advance in isolation it must be part of an overall educational strategy'. The statement reflects the Zambian situation and most developing countries. Special needs education in Zambia is rather static despite being established a rationale for different aspects of service provision (Katwishi, 1995).

Zambia has no statutory basis for identifying, assessing and educating children with SEN within the boundaries of its resources because special education was deemed to be included in the general education legislation in 1971 when education for special needs became a direct responsibility of the Ministry of Education through a Presidential decree. Hergarty (1992) sees a danger in the General Education Act which does not include provision for SEN of being insensitive to needs of learners with SEN. He argues that the distinct requirements and rights of learner with SEN are not targeted and safeguarded consequently, differentiated required services cannot be provided. This is a case the school I did my study, teachers cannot provide the required services to the hearing impaired pupils because they lack the knowledge and skills of proper communication. The physical environmental is not conducive, they don't have teaching aids, and the curriculum is not flexible for the hearing impaired pupil. Services provided are meant for the so called 'normal hearing pupils'; while for the hearing impaired there is nothing as a result they always lag behind in class performance.

Applying this line of reasoning, 1966 Education Act which is silent on SEN has resulted in limited educational opportunities for 98% of Zambian children with SEN. This has deprived them of education which is a basic human right. Hence the immediate need for the review of the 1966 Education Act to make it responsive to the needs of the learner with SEN. The statutory obligation would back the 1996 policy on SEN by articulating and reinforcing its different elements to learners with SEN, 1992 Focus on Learning and the 1996 Educating our Future state the policy on SEN. The policies have been difficult to implement as they are not explicit and adequately backed up by the statutory obligation to articulate and reinforce their different elements.



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## 1.11 Present situation on hearing impairment

According to the current policy (MOE, 1996), the Ministry of Education intends to increase access, promote equality of educational opportunities and improve the quality of education for children with special needs. Special needs may be regarded as education that provides appropriate modification in curricula, teaching methods, education resources and medium of communication or the learning environment (Lerner, 1997). The modifications are meant to meet the special needs of individuals. The ministry further states that children with special needs will be included in the main stream in every school. The implication of this policy ratifies the principle that every individual, regardless of personal circumstances or capacity, has a right of access to and participation in the education system. In realizing this principle, the government of Zambia has committed itself to training teachers in the field of special education. Further, the ministry looks forward to establishing assessment centres in all provincial and district resource centres for quick assessment of children with special needs (MOE, 2000).

Since the year 2003, the Ministry of Education has taken a positive step in the education of children with hearing impairments by placing inspectorate sections in every province and district to help monitor special education programs. Currently, the inclusive education program is also implemented in some schools countrywide. However, the systems of identifying and contacting children with hearing impairments which is the basis for assessment, placement and rehabilitation is still not yet fully developed. The procurement of learning and teaching materials and poor infrastructure in schools and training of regular teachers teaching children with hearing impairments in regular classes are also other challenges. Indirectly this still implies insufficient education for the hearing impaired children (ibid).

## 1.12 Organisation of the thesis

The thesis is divided into five main chapters as follows:

**Chapter 1:** This chapter consists of introduction part, brief background about the research topic, research questions, justification of the study. Education systems in Zambia from pre-colonial to the post-colonial and after independence, laws and legislation in special education policy are presented.

**Chapter 2:** In this chapter, and literature for the study are presented in the area of hearing Impairment, the modes of communication and inclusion are also explained.

**Chapter 3** The methodology chapter describes and discusses the process of this study. The main areas presented are research design, sampling, data collection, validity and reliability ethical considerations. The limitations are also presented.

**Chapter 4:** This chapter presents and discusses the results of the study.

**Chapter 5:** The last chapter gives a summary of the findings, concluding remarks and recommendations in relation to the findings.





## **2. Children with Hearing Impairment and Education**

This chapter reviews literature on hearing impairment and the methods used to teach hearing impaired pupils by regular teachers in an inclusive class. As stated in the chapter, the purpose of my study is to investigate on the teaching methods used on the hearing impaired pupils that sign language and oral language, the chapter will also review the literature on the philosophy of inclusion and its background, the overview of hearing impairment, some cultural beliefs towards disability in Zambia, and previous studies on inclusion of children with hearing impairments.

### **2.1 Hearing Impairment-definition of terms**

The term ‘hearing impaired’ has been used for all categories of hearing loss, that is, for all categories of hearing loss, that is, from very mild loss to the profoundly deaf person. Another term that is accepted is ‘hearing disability’ (Moore, 1996).

Persons with hearing impairment may be divided into groups: The hard-of hearing person and the profound deaf. A hard of hearing person can hear sound especially when it is amplified by a hearing aid. Davis & Silverman (1998) emphasize that the hard of hearing are pupils whose sense of hearing though defective is functional with or without hearing aids. While it is generally agreed that the hard of hearing can hear speech sounds using hearing aids, it is argued the deaf children find it difficult to fit in the environment especially when found among the hearing children. A profound child has a hearing rate of over 91db. He or she is unable to perceive any sound.

Hearing impairment is defined by Davis & Silverman (1970) as a general term for malfunction of auditory mechanism. According to Heward and Orlansky (1988) “Hearing impairment refers to the condition when or where some one has loss of

hearing system caused by various factors at pre-natal or postnatal stages” (Mercer and Mercer, 1989).

Moorse (1996) defines hearing impairment as a state where hearing problems are experienced leading to an interruption in the chain of communication that interferes with social functioning. A person, who cannot hear at all, could hear only loud sounds, or can hear only shouted words, or can hear only when the speaker is sitting in front, or usually asking to repeat the words spoken or would like to see the face of the speaker.

Although there are situations where differences between a hard of hearing and a deaf seem wiped out, or not at all realistic, there also exist situations with a maximum of differences. If we make a clear distinction between countries attaching importance to hearing aids and hearing improvements and countries without possibilities to organize such services, there are more functionally deaf people in countries with little or no audiological services than in highly technological countries with all types of modern amplification- (Gregory, S. & et al, 1998).

Hard of hearing are those who generally with the use of hearing aids have residual hearing sufficient to enable successful processing of linguistic information through audition. Of course there are lots of other variables to be taken into consideration: stress, communication tempo.

In Zambia a lot of children are hardly identified that they are hard of hearing in class, basically the teachers don't have any knowledge on hearing impairment and even on the knowledge of assistive devices which can help these children to hear. These children will be subjected to be called dull in class because of the poor performance in class. Regular teachers don't have the sign language skills or oral language skills.

Although the above definitions differ in the way they are phrased, they all mean the same in that they are concerned with hearing loss.

## 2.2 Classification of hearing impairment

Hearing impairment is classified according to the levels of hearing (Davis & Silverman, Kirk & Gallagher, 1983; and Hewett & Forness, 1984).

Levels of hearing:

- Mild – 26-54dB
- Moderate – 55-69db
- Severe – 70-89dB
- Profound – 90- and above (Hoeman & Briga, 1981:225).

According to Davis & Silverman (1978), loss of hearing begins at 27 dB. At this level, the individual is said to be hard- of- hearing. With a loss of hearing that is measured at 93 dB, the individual is said to be deaf. Kirk & Gallagher (1983) argues that a person is referred to as deaf if he cannot understand speech at 70 dB and is referred to as hard- of- hearing when the level of hearing is between 35-69 dB.

Moore (1978) in Hewett & Forness designated four levels of deafness:

Level 1 (requires 35 to 45 dB intensity). At this level the individual usually does not require special education services, but may need special speech and hearing assistance.

Level 2 (requires 55 to 69 dB intensity). At this level the person may occasionally require special education services, but will need speech and language assistance.

Level 3 (requires 70 to 89 dB intensity). At this level the individual will routinely require special education services and special speech hearing and language assistance.

Level 4 (requires 90 or more dB intensity) the individual at this level requires the same assistance as at level 3.

Recognition of these levels is crucially important in learning the type of placement of children with hearing impairments in regular school. Teachers should have the knowledge on the classification of hearing impairment because this will enable them understand which methods they can use in class accordingly. It will make understand which child is hard of hearing, and which child is deaf and which child may require a hearing aid. It will assist the teacher to know what method of teaching is required to teach these children, will it be sign language or oral language or both?.

## 2.3 Educational considerations

Moore (1987), refers to 4 levels of hearing input and their educational requirement which have already been explained in the discussion.

Admittedly, the audiogram is not the only assessment by which to label a child's level of deafness. Again as stated by Moore (ibid), "It would be no more defensible to classify a child as deaf or hard of hearing solely on the basis of an audiometric examination than it would be to label a child as untrainable or uneducable mentally retarded purely on the basis of an IQ score.

Other factors such as age of the onset of the hearing loss, age of fitting and appropriateness of fitting of a hearing aid.



The age of onset of hearing impairment is seen as the major contributing factor to difficulties in learning speech and language. If a child is post-lingual deaf or has a mild to moderate hearing loss or gets very early amplification and exposure to a great deal of auditory training, it may develop a good language ability. On the other hand if the child is pre-lingual deaf and is also discovered at a later stage then again the chances of language development, in the spoken and written form are considerably reduced (ibid).

Many other factors may also determine the educational programme for a child with a hearing loss. The early fitting of hearing aids, deaf of hearing parents and support and counseling services for the family will all have an effect on the child's educational possibilities (Starch, 1998).

That deaf children of deaf parents have a better chance of developing language is because of early use of sign language which "aids these children in learning written English and reading (Lane, 1992)" (Hallahan & Kauffman, 1994).

As stated before, levels of hearing loss need not be the only criteria for a child's educational placement. A child who has post lingual deafness may have speech competency allowing it full integration in the regular school. Nor is it impossible for children with severe hearing loss to benefit from integration programmes if they have developed good speech reading abilities.

### **Educational implication**

Most researchers that have compared the academic performance of students with and without hearing impairments, find that students with hearing impairments perform considerably below their chronological peers /Davis, Shepard, Stelmachowicz, & Gorga 1981; Kaley & Reed, 1996 in Taylor et al, 1995:243). In most cases, the deficits reflect the amount of language that may be involved in the academic area. For example, Trybus (1985) in Taylor et al (1994), found that both reading and arithmetic

performance were poorer in students with hearing impairments. This indicates that if regular teachers do not have any knowledge the methodology of sign and oral language the performance of these children in class will be below average all the time.

## 2.4 Modes of Communication

Communication is the sharing of information, opinions, thoughts, ideas and feelings by two or more individuals (Skjørten, 2001:244; Bernstein & Tiegerman, 1994:4; Ling. & Ling, 1978:23). They stated that we adopt the form of communication used by the family, community and society into which we are born when a situation arises in which neither individual knows the other's system, one must learn from the other, or both have to work out a new system, it is very difficult to give a response, receive message and understand each other in many circumstances. Without communication there will be no education, no matter how qualified and relevant the adaptation of content, methods and organization seems to be (Johnsen, 2002:288-289). For example, in the case of a person who has had a stroke and has lost his ability to speak, a system can be worked out so that he can respond to questions like Yes or No responses by making a movement of which he or she is capable, such as raising his hand or closing his eyes.

Children naturally try to learn a language that enables them to be understood. The communication method used by a deaf child will depend on a number of factors, such as the level of their hearing loss and which methods they are most comfortable with Moores (1996) states that, there are two basic modes of communication that are used for educating hearing impaired children; the Oral method and Total communication. He also refers to a new third approach, the bilingual-bicultural method; I would like to include Sign Language as a separate method as it is the one commonly used and is a step before the bilingual-bicultural approach.

### **2.4.1 The oral method (or Auditory-oral approach)**

In this method the child is taught through speech and lip-reading. Emphasis is on amplification of sounds through hearing aids, and cochlear implants to amplify residual hearing; children can develop their listening skills and therefore develop a spoken language. They do not use sign language or finger-spelling to support the understanding of spoken language. Since speech is the medium of instruction, the teacher will have to provide the maximum clarity in lip reading. (Crowther, 2005).

Lip-reading is the ability to read lip patterns. Many deaf children will naturally try to lip-read when they are communicating. However it would be difficult for most deaf children to understand fully a conversation through lip-reading alone. The best possible conditions would need to be in place, for example a quiet place and good lightening. This would allow them to concentrate and follow what is being lip-read. Lip-reading would be used in line with other communication approaches. This method is most effective in cases of mild to moderate hearing loss.

On the other hand in using oral language as a mode of teaching the hearing impaired, the teacher uses speech and no signs are used. Some scholars have encouraged the use of oral language. According to McCracken & Sutherland (1991) states that, “there is no doubt that spoken language is the most used and mostly used by the population at large”.

McCracken & Sutherland are supported by Minific (1973) who state: “sign language is non-verbal form of communication, it is also non-speech and therefore, it is not very effective in educational circles”.

#### **Auditory training**

The auditory approach emphasizes the development of listening skills, especially for children who can profit from it. (Heward, 1996; Kirk & Gallagher 1983) wrote that

the procedure is used extensively with children with moderate hearing losses and sometimes with those with severe hearing losses. The auditory approach is probably most effective when it is initiated in the early years (Heward, 1996, Kirk & Gallagher, 1983:256-257. A child's awareness acquisition of language is dependent upon his ability to hear the spoken messages of others as well as perceive his own attempts to imitate (Davis & Silverman, 1978:367).

Davis (1992) supports McCracken and Sutherland on the use of oral language as he says "oral communication gives an easier adjustment to a world in which speech is the main means of communication".

According to Kirk & Gallagher (1983) they say educators supporting the oral approach claim that a child is permitted to communicate using signs, such a child will not make the necessary effort to learn speech.

Davis & Silverman (1998) think that oral language is used to teach or in teaching of the hearing impaired because it is universal agreement among educator of the hard of hearing that every child should be given an opportunity to communicate by speech. Thus when the hard of hearing are taught oral language, they are given chance of using their residual hearing and enabling them to understand speech and use it in their communication.

In support the use of oral language, English is universal because it uses two forms as aural and oral method and he says that in teaching of the hard of hearing, emphasis must be put on the early and consistent use of high quality amplification. He says when a hearing aid is amplified, a hard of hearing pupil will get all the information and thus here no need for sign language and therefore further claims that exposing a pupil to language and therefore further claims that exposing a pupil to language will only retard the pupil's language development (Quigley and Kutsher 1985).

### **Amplification Instruments**

A hearing aid is an important amplification instrument used by children with hearing impairment. Its functions are to make or amplify sound and make it louder. Modern methods of testing hearing aid improved electronic technology for the amplification of sound to enable many children with severe and profound hearing impairments to benefit from hearing aids in the classroom, home and community, regardless of whether they communicate primarily in an oral manual mode. Just to mention the different types of hearing aids that can be worn:

- On the body,
- Behind the ear,
- In the ear,
- In eye glasses.

Children with hearing impairment can wear hearing aids in one or both ears (monaural or binaural aids). Today's hearing aid is generally smaller and light than the older models, yet they are also powerful and versatile (Heward, 1996:359). A hearing aid picks up sound, magnifies its energy and delivers the louder sound to the user's ear and brain.

Hearing aids help many children with hearing impairment. It increases their awareness of residual hearing. Classroom amplification is used in both special classes and mainstream settings where children with hearing impairments are integrated with non-hearing impaired. (Martin & Fredrick).

## 2.5 Total communication

Total communication includes the full spectrum of language modes, child-devised gestures, and the language of sign, speech, speech reading, finger spelling, reading and writing (Denton 1976, p. 4).

‘In regard to the day to day practical aspects of Total Communication, the concept simply means that, in so far possible, those persons within the child’s immediate environment should talk and sign simultaneously”(ibid).

According to Sletmo (2004) has defined total communication as a communication philosophy not a communication method or a teaching method. He goes on to say that total communication is an approach to create a successful and equal communication between human beings with different language perception and/ or production. Used among the deaf it among several other things includes knowledge of Sign Language, natural language for the deaf children, for example they learn through communication, while spoken/written language only can be learnt through systematic teaching. Total communication has been used as a teaching method for all levels of hearing impairment as it gives a variety of options to communication.

The aim of total communication in the education of hearing impaired or deaf children according to Sletmo (ibid) is based on the following principles:

- To give children the right to express themselves in a spontaneous and language developing way.
- To give deaf children the right to a free choice between favorite means of communication in any situation.
- To create an understanding for the hearing persons’ right to speak and listen.
- To create a common language in the class-room based upon both sign language and spoken language.
- To give hearing impaired or deaf children self-respect and identity through successful communication.

- The elements from eye-to-eye contact up to and including iconic, imitating signs are all known to hearing people, and after a short time's intensive instruction these signs and principles can be used effectively and deliberately.

In addition to this, as Moores (1987, 1996) & Heward, (1996) wrote that total communication philosophy endorses the right of every hearing-impaired child to communicate by any means found to be relevant. This indicates that all children with hearing impairment have a right to communicate with each other based on their needs for communication. This means, anyone who needs to communicate, might use speech, signs, gestures, writing or other means depending on the circumstances. McAnally et al (1994) explained that total communication programs have been implemented in the United States since in the early years or the 1970s.

On the other hand, Skjørten, (1997) explained that total communication in Scandinavian countries is based on interaction and communication as the basis for all learning. All people have a right to communicate based on the channels of communication most accessible to them. Therefore, one can use any means of communication such as body movement, touch, sound, picture, concrete objects, etc., that can provide the necessary symbols to make communication possible. Hence, to generalize, for all the above scholars total communication means the movement, touch, sound, pictures, concrete objects, facial expression, etc.

## 2.6 Sign Language

Kaupinen (1988) defines sign language as a visual language expressed by hands, arms and eye movement. It is a language for deaf people. He continues by saying sign language is the only language that a deaf child can acquire from others without special education in the same way a non-deaf child speaks spoken language. Those

that are born deaf have sign language as their mother tongue and have to learn the national language (ibid).

According to Gulliford (1971), he views sign language as a normal communication mode and it is independent of oral language. It is transmitted and received through hands. He continues by saying, that sign language is involved with oral language and it is influenced by oral language where as oral language is never influenced by sign language.

Jordan (1986) also adds the view that sign language is non-verbal form of communication. It is non-speech or non-oral.

Is a language which uses manual communication instead of sound to convey meaning-simultaneously combining hand shapes, orientation and movement of the hands, arms or body, and facial expressions to fluidly express a speaker's thoughts? Sign languages develop in deaf communities, which can include interpreters and friends and families of deaf people as well as people who are deaf or hearing impaired themselves.

When people using different signed languages meet, communication is significantly easier than when people of different spoken languages meet.

Nowadays, sign language is accepted as one of the main communication systems for people with hearing impairment. Ewing (1987) mentioned that sign language could be used as a method to improve pre-linguistic skills such as eye contact, attention control, imitative, and social behaviour. Based on the World Federation of the Deaf (WFD) (1993) definition, sign language consists of, visual-gestural language, which involves the use of hands, eyes, face, mouth, head and body. In addition to this, McAnally and his colleges wrote that American Sign Language is a formal, socially agreed on rule-governed symbol system. Again, they explained that the components



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of American Sign Language do not have phoneme (sound) combinations (i.e., hand shapes, hand positions, hand movements, orientations of the palm) that form signs.

The World Federation of the Deaf, special needs education professionals, and others, who are involved in this field directly or indirectly believe that sign language, can be a mother tongue for a deaf child. Hence sign language is a primary language of children with hearing impairment. It gives them a means to express themselves and develop their potential in similar ways to what spoken language can accomplish. In this case, the regular teachers teaching these children should have the methodology of sign language when teaching. Children with hearing impairment should thus be exposed to language. McAnally and his colleagues (1994) mentioned that children with hearing impairment have difficulty in acquiring English and other spoken languages. This has fuelled the growing consensus that sign language, such as ASL, should be developed as the first language for all children with hearing impairment. In Zambia American Sign Language is the one which is used in schools for hearing impaired children. Though the Deaf Association is currently carrying out a research on producing their own Zambian sign language.

### **2.6.1 Manual approach**

One of the most powerful developments in language communication systems is manual communication, graphics system and expressive communication aids (Moore, 1996). Manual communication can be used in two different ways to present a word. The first is finger spelling, spelling the word letter by letter using a manual alphabet chart that consist of twenty-six letters having a one-one correspondence with traditional orthography (ibid). In finger spelling, the hand is just in front of the chest and letters are represented by different hand configurations. As Moore (ibid) described it, the second way to present the word or a concept is through a sign, which represents a complete idea using the position of hand, the configuration of shape and the movement of hands to different positions. It is possible to transmit written language on the hands. This done by finger spelling, which uses hand and finger

shapes to represent the alphabet letters of a written language (Evans, 1982:44).( See appendix 5) for different manual alphabet charts.

McAnally et al (1994) explained that Bonet (1579-1620) introduced and used finger spelling as a means of communication. Bonet also initiated the instruction of family members and peers in the use of finger spelling as an additional means of communication. Finger spelling is an important part of communication system of deaf persons. For instance, we can see that the American alphabet letters produce 26 hand positions, some of which are exact representations of the printed block letters. As Riekehof (1990) wrote, finger spelling is used in combination with the language of signs for proper nouns, names, and addresses, and for words that have no sign. This is the case in Zambia the teachers who are trained use finger spelling due to limited signs.

Kirk & Gallagher (1983) mentioned that a manual approach is simply sending information with our hands and arms and receiving information with our eyes. Therefore this type of communication approach is easy to teach children with hearing impairment, especially children who are deaf, because they mostly do not need spoken language due to lack of language. In addition to this, when the first school was opened in Denmark (Copenhagen) by Dr. Peter A. Castberg, in 1807, the manual method of sign language and finger spelling was introduced for teaching deaf children (Ahlgren & Hyltenstam, 1994). They mentioned that the education of children with hearing impairment in Denmark flourished throughout the 1800s. Because of the positive results more and more children went to this school, which had both deaf and hearing teachers. Deaf adults also became aware of their right as deaf people in different situations. They got employment; they married each other and had families. They founded their own deaf club and associations. This indicates that through the manual approach of communication deaf children have integrated in school, surrounding community with other community members and have done more activities.

Regular teachers teaching children in regular classrooms don't have this knowledge on the manual approach. Though they used tried to use simple gestures, aids like the manual alphabet chart are not available in the school. They don't the knowledge on finger spelling and this needs aids like the alphabet chart in classrooms. In Zambia, the medium of instruction for hearing impaired children in schools is sign language, basically the American Sign Language which goes with the American manual alphabet (see appendix 5), is the one which is used. Regular teachers have no idea on this methodology as a result they are limited to communication with these children.

### **2.6.2 Sign languages' relationships with oral languages**

A common misconception is that sign languages are somehow dependent on oral languages, that is they are oral language spelled out in gesture, or that they were invented by hearing people.

Finger spelling is used in sign languages, mostly for proper names. The use of finger spelling was once taken as evidence that sign languages are simplified versions of oral languages, but in fact it is merely one total among many. Finger spelling can sometimes be a source of new signs, which are called lexicalized signs. On the whole, deaf sign languages are independent of oral languages and follow their own paths of development. For example, British sign language and American Sign Language are quite different and mutually unintelligible, even though the hearing people of Britain and America share the same oral language. (Moore, 1996)

Similarly, countries which use a single oral language throughout may have two or more sign languages; where as an area that contain more than one oral language might use only sign language.

Profound deafness from birth or which occurs before the development of speech and language presents an enormous barrier to the development of speech and verbal

language. To understand why this is so, it is helpful to consider the development of speech and language in hearing children. (ibid)

Most hearing children are born into homes where people talk. The adults talk to each other and they talk to the children. Hearing children are bathed in verbal language. At first they babble but soon they learn how to speak. To do so they have to be able to hear speech and to monitor their own voices, both in pitch and in volume. Soon they begin to internalize their speech, to associate the words they stay with people and with objects. By the end of the first year most hearing children are able to say a few words but they are able to understand much more, and by age of four years they have a vocabulary of some four thousand words and have mastered most of the grammatical complexities of their native tongue. (ibid)

Children who are profoundly deaf from early life cannot learn to speak intelligibly. The main reason is that, being unable to hear, they cannot imitate the speech of others or monitor their own voices. Another important factor is that such children have a long preverbal stage. Some never achieve a complete mastery of verbal language while others remain non-verbal (John 1994).

On the other hand, in his argument for sign language usage, Watson (1987) says “one is dissatisfied with the terminal attainments of pupils being educated by oral methods only”. Watson therefore thinks oral language is not the best method and thinks sign language is a better method for teaching the hearing impaired pupils.

Moore (1996) in supporting Watson says “anyone who has addressed an audience of deaf people using sign language is left with no doubt how effective it is”. He therefore suggests that consideration must be made as to whether manual communication can be easier access to oral language.

In order to find what method is best between the two modes of communication, Meadow (1990) conducted a research in a state school for the deaf. He compared the deaf homes from homes of the hearing parents and those from homes of deaf parents were superior in self-concept than those pupils who came from homes where parents were hearing and used speech.

This convinced him that sign language was better than oral language. In an attempt to prove and support Meadow (1988) who claimed that, although all languages can be transmitted through speech, speech is not an essential feature of language. He claims sign language which is transmitted through manual or signing mode is not a mirror but a separate language with its own rules. (ibid) said, when mastered, sign language was effective and could be used for teaching the hearing pupils. Therefore the manualists claimed and argued that sign language, if well mastered could be used for teaching the hearing impaired pupils without any problems.

Some oralists, who believe that sign language impairs speech and makes a child lazy, talk about the bilingual approach. In Zambia special schools for the deaf use the American Sign Language that's the medium of instruction and the American manual alphabet with 26 letters is used. In an inclusive school, it's important that sign language becomes a subject to all the pupils in the classroom. This will break the barriers of communication. In inclusive classrooms.

## 2.7 What is sign bilingualism?

According to Moores (1996), the term 'sign bilingualism' describes the use of two languages in different modalities that is signed and spoken language, as distinct from the use of two spoken languages. (The term 'sign multilingualism' can also be used to describe the situation where the home language is neither English nor local language nor American Sign Language (ASL)).

Models of bilingual education for hearing children need to be adapted and modified to suit the circumstances of deaf children.

The philosophy underpinning sign bilingualism is based on a linguistic and cultural minority model of deafness and a social model of disability. Deaf people are respected as members of a minority group defined on the basis of language (Sign Language) and culture (Deaf culture). The goals of sign bilingualism are to enable deaf children to become bilingual and bi-cultural, and participate fully in both the hearing society and the 'Deaf World'. Deafness is not regarded as a barrier to linguistic development, educational achievement or social integration (ibid).

Preferably profoundly deaf children need a 'bilingual' approach. Sign language will be their first language and English their second one. Their preverbal stage is a long one but, provided they are given the proper help, they will be able to communicate effectively in sign language. Later, many will become fluent in English. Some will be competent lip-readers, but nearly all will experience difficulties in communicating with hearing people because of their poor speech (ibid).

Some deaf children with useful hearing for speech with amplification will be able to communicate using oral/auditory methods and English will be their first language. Many of these children will not experience major communication problems when all the conditions are right, in other words, when face-to-face, in good light and when clear speech is used. Many will learn to speak intelligibly and become good lip-readers. However, many will experience difficulties in understanding and being understood in less than ideal conditions. They, too, can benefit from the use of sign language (ibid).

Many deaf children who are educated using oral/auditory methods may cope reasonably well at school but afterwards find difficulties in integrating into hearing society. They find that the speech is often not fully understood and they have

difficulties in understanding in less than ideal conditions. Communication is often difficult, frustrating and tiring. Many find the solace in joining societies for deaf people who communicate by sign language (ibid).

Deaf children are very heterogeneous. Their deafness varies and so do their personalities and intelligence. Some have other disabilities. They have different backgrounds. Their assessment may be very difficult and the prescription for management will often vary from child to child. In particular, the method (s) of communication must suit the child rather than the child suit the method. Moreover, every deaf child should be reassessed at regular intervals John (1994).

For using any of the teaching methods, the teacher must know the important aspects of the different physical and biological reasons for deafness and how language is affected. Its relevance and practical application in the teaching process will need to be given to them so as to enhance their understanding of the modes of communication most suitable for the child

They will need to know:

- Why hearing loss
- The anatomy of the ear
- Why audiograms are useful
- Why hearing aids will have a limited effect on the hearing and speech capacity
- Why hearing loss affects speech
- Why and how listening techniques should be used

This information will help the teachers to understand how to effectively use the pupils' potential hearing to its best advantage and to what degree they need to stress speech training as a part of their daily lesson. (Crowther, G. 2003).

## 2.8 Inclusive education/Schooling

For a long time, special schools were seen as the mainstay of provision of education for children with hearing impairment, including children with disabilities (Meijer et al, 1997). These schools came to be as segregation children with special needs (Skjøten, 2001) and isolating these children from the rest of society. Inclusive education came to be viewed as the best way to educate learners with special educational needs.

Inclusive education is sometimes defined as “the provision of appropriate, high quality education for pupils with special needs in regular schools” (ibid). This definition however, is rather vague. It could just as easily be used to define integration. There is more to inclusive education than just educating learners with special educational needs in the regular school. Inclusive education applies the principle of inclusion to the school setting. It implies that in addition to receiving an appropriate, high-quality education in the regular schools, learners with special educational needs, including those with disabilities, are recognized as part and parcel of the school community and participate fully in all aspects of school life-whether they be academic, social, or otherwise.

### 2.8.1 The origin of inclusive schools

The 1994 Salamanca World Conference on Special Educational Needs representing 92 governments which included Zambia and 25 international organizations reaffirmed the right to education of every individual, as enshrined in the 1948 Universal Declaration of Human Rights. It also renewed the pledge made by the 1990 World Conference on Education for All (E F A) to ensure the right to education for all learners regardless of their individual differences. The Salamanca conference recognized the need to work towards ‘schools for ALL’.



These are seen as institutions which include everybody, celebrate differences, support learning and respond to individual needs (Mayor, 1994). The objective of the conference was to seek ways of improving access to education for the majority of these school aged learners with S E N who are not in school.

Inclusive education would be seen as the most effective means of combating discriminatory attitudes developing an inclusive society and achieving education for all. It improves access to education for the maximum number of learners with SEN. For instance, Zambia's segregated education provision started at the turn of century but access to education provision started at the turn of the century but access to education for learners with SEN was 0.0% in 1995 (EFA. 1995). The noted increase resulted from the increase in number of units for SEN that were established in regular schools in the name of social integration.

Effective learning for all learners is provided in inclusive schools because learning experiences are based on identified strengths and weaknesses of individual learners. This makes inclusive schools to be seen to be more cost effective than segregated schools which educate a legible number of learners with SEN at a very high cost. Emphasis on inclusive schooling means emphasis on achieving high quality learning for all (Skirtic, 1991).

### **2.8.2 Why Inclusion?**

Special schools were preferred alternative for educating learners with impairment. In these schools, learners with impairment were considered as special learning problems which required special attention by specialized personnel in specialized institutions. As people became more and more aware of the different degrees of educational needs, and as the awareness grew of the consequences of educating children with impairment in special schools, it became clear that inclusion of learners with

impairment into the regular school was more viable solution than the use of special schools.

Research done in residential schools indicates that children and adults from these schools developed behavioural traits one usually associates with deprived children. Such behaviours include passivity, self-stimulation, self-destructive behaviour, and so on (Skjøten, 2001).

As already mentioned, special schools are segregative in nature. Children in these schools become isolated for the rest of society. The consequence of this is that on leaving school, the graduates of special schools cannot fit into societies from which they come (Lynas 1986). Neither does society get to know its members with impairment since they spent most of their early life in special schools.

It has usually been assumed that inclusion is only for the benefit of people with impairment. This is not the case, however. From an enrichment perspective, inclusion would benefit everyone involved (Befring, 2001).

"The Enrichment Perspective is a strengths and ability-based approach...it involves an assessment of what the child can do as well as what the school and the kindergarten etc., and uses this information as this information as point of departure in creating or adapting learning environments (Befring,2001. 49)."

Applying this principle in an inclusive setting means that the learner without impairment would gain more from education. A school, kindergarten or community that is responsive to the needs of its members as well: individual differences are appreciated and viewed as resources rather than as problems (ibid). Inclusive education, from an enrichment perspective, would result in enrichment for everyone involved: students (with and without impairment), teachers, parents and families of the children involved, and the community at large.

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### 2.8.3 Inclusive education in Zambia

In the past, special education was defined in terms of handicapped children with a range of physical, sensory, intellectual or emotional difficulties, who had to be educated in certain ways and in particular settings. Based on the *difference principle*, there was a clear distinction between those who are labelled handicapped and the so called normal (MOE, 1996).

Recent years have seen remarkable changes in the way special education is perceived. This shift in outlook has emanated from a number of international policy documents. These have led to new approaches to education the world over. The inclusion of children with special educational needs in ordinary schools has become an increasing concrete objective in education systems including Zambia (ibid).

Inclusive education in Zambia is a recent phenomenon, which started in 1997. It started as a pilot study in Kalulushi District in the Copperbelt Province of Zambia. Ten schools were identified for the pilot study. After one year, evaluation was carried out to find out the successes and the failure of inclusive education in the district. After evaluation it spread to all the nine provinces of Zambia (Inclusive 2002).

### 2.8.4 Inclusion as an Internationally Recognised Policy

The political shifts and movements of the last quarter of the twentieth century were felt internationally as the rights campaign made its impact on the public services of all kinds. Changes have been possible in thinking about inclusion in education not only because of the broader change in social climate, but also in the way that ‘difficulty’ is increasingly being perceived (Thomas & Loxley 2001). There seems to be less finger-pointing at the child who manifests learning difficulties at school than in the past. The international community is exploring other sources of the problem solving rather than solely focusing on the ‘victim’. Inclusive education has come about from

a movement associated with the fight against exclusion of learners with disabilities and others categorized as 'having special needs' to one which challenges all exclusionary or separate provision policies and practices in education. The basic ideas of inclusion can be found in many previous international policy documents including: the Convention on the Rights of the Child (1989), and the Salamanca Statement and Framework of Action adopted at the World Conference on Special Needs Education (1994).

The convention on the Rights of the Child (1989) stipulates the rights of all children. Notable among these are: the right not to be discriminated against (Art. 2); the right to live within his/her family and the right of disabled children to have special care (Art. 9) and the right to education and training to help him/her achieve the greatest degree of self-reliance and social integration possible (Art. 23). In addition, the convention states that education shall aim at developing the child's personality, talents and mental and physical abilities to the fullest extent. This means that education shall prepare the child for an active adult life in a free society and foster respect for the child for an active adult life in a free society and foster respect for the child's parents, for his/her cultural identity, language and values and for the cultural background and values of others (Art. 29,30).

The Standard Rules on the Equalization of Opportunities for persons with Disabilities (1993) later stated that educational authorities are responsible for the education of persons with disabilities in integrated settings (i.e. in regular schools).

In 1994, one of the most significant international events in the field of special education occurred to build on the Jomtein Declaration and Standard Rules principles and to map out the practical requirements that have to be satisfied to make inclusive education a reality. This was the purpose of the Salamanca World Conference on Special Needs Education: Access and Quality organized by the government of Spain in co-operation with UNESCO. The goal was nothing less than inclusion of all the

word's children in schools should accommodate all children regardless of their physical, intellectual, social, emotional, linguistic or other conditions. This should include disabled and gifted children, street children and working children from remote or nomadic populations, children from linguistic, ethnic or cultural minorities and children from other disadvantaged or marginalized areas or groups. In the context of this frame work, the term 'special educational needs' refers to all those children and youth whose needs arise from disabilities or learning difficulties (Salamanca Framework for Action, Art.3).

All the above developments coupled by initiatives from the countries themselves as well as from various multilateral and bilateral organizations and NGOs, have culminated in the growing recognition that all children have a right to a common education in their locality or community regardless of their background, attainment or disability. However, while there is consensus on inclusive education being the most desirable, how to achieve full inclusion remains a challenge.

## 2.9 Conclusions

This chapter presented review of related literature to the study focusing on hearing impairment, modes of communication for the hearing impaired pupils and inclusive schooling. These aspects were presented within the conceptual frame of investigating regular teachers on the modes of communication in an inclusive class of hearing and hearing impaired pupils. The following chapter presents a description of the methodology used in investigating the research problem for the study.



### 3. Research methodology

This chapter introduces the design, population and sample, research methods, research instruments and data collection procedures applied to investigate regular teachers on what kind of knowledge they have on the modes of communication when teaching the hearing impaired pupils. The major focus was to attempt to find out what kinds of communication approaches the regular teachers use in the classroom. This chapter attempts to give a description of the design and reason for its selection in the investigation of the research problem. The following is the research problem of this study.

#### 3.1 Research design for the present study

In order to have an in depth study on the knowledge the teachers have on the methods of communication to hearing impaired pupils when teaching, a case study design was found to be suitable. Kirk & Miller (1986) cited in Gall et al. (1996:547), define qualitative research as *‘....an approach to social science research that involves watching people in their own territory and interacting them in their own language, on their own terms’*. They add that, in qualitative research, the researcher is concerned with understanding behaviour from the informants’ own frame of reference. External causes are therefore secondary since the researchers tend to collect their data through sustained contact with people in the settings where they normally spend their time. In this study information was collected from the teachers at their working place (school).

Gall et al. (1996) add that, one of the main characteristics of qualitative research is its focus on the intensive study of specific instances, which is *cases*, of a phenomenon. In Gall et al. (1996:545). They therefore define a case study as *‘....the in-depth study of instances of a phenomenon in its natural context and from the perspective of the*

*participants involved in the phenomenon*'. They add that, a case study is done to shed light on the phenomenon, which is the process, events, persons, or things of interest to the researcher. A "phenomenon" is an entity or any real thing being studied, for example, programs, curricula, roles and events. In this study the phenomenon of interest was the knowledge which regular teachers have on sign and oral language. The context of the study was the classroom. Similarly, Robson (1999:5) adds that:

"A case study is a strategy for doing research, which involves an empirical investigation of a particular contemporary phenomenon within its real life context, using multiple sources of evidence".

He adds that, some of the typical features of a case study are; selection of a single case (or a small number of related cases) of a situation, individual or group of interest or concern; study of the case in its context; collection of information via a range of data collection techniques, including observation, interview and documentary analysis. Yin (1994) further emphasizes the importance of studying a phenomenon in its natural context. He explained that, a case study investigates a contemporary phenomenon within its real-life context, using multiple sources of evidence. In the study, I gathered the information from four regular teachers using interview as the main method.

A case study investigates a phenomenon through a case. Gall et al. (1996:545) define '*a case as a particular instance of the phenomenon*'. Examples of cases are a school, an individual, district, group of teachers and grade level. The cases for this particular study were four regular teachers. Each individual teacher represented a case.

## 3.2 Population and sampling.

According to Gall *et al.* (1996), careful selection of research will help to ensure the success of your research study'. Field settings, such as schools are more appropriate



for any of the problems that may interest educational researchers to locate suitable field settings and enlist the co-operation of the individuals in them whom they wished to study. In this study Lusaka district in Zambia was chosen as a study area. I chose this school in Lusaka because it was a place which I knew was practicing inclusive education. This school has hearing children, hearing impaired children and the visually impaired children.

### ***The target population***

According to Gall et al (2003), it is only when a target population has been identified that a sampling procedure can be instilled. The target population consisted of regular teachers in an ordinary high school in Lusaka District. These teachers were identified as part of the target population because they teach both hearing impaired and hearing children in class. They were therefore expected to provide some information regarding the teaching methods they use (sign and oral language) when teaching.

A sample is a selection from the population that the researcher wants to study. In qualitative research, determining sample size is entirely a matter of judgment; there are no set of rules. (Gall et al., 1996). However, as Patton (1990) cited in Gall et al. (1996:236) suggests that, an in-depth information from a small number of people could possibly be very valuable, especially if the cases are information-rich. To get in-depth information on the knowledge the regular teachers have on the methodology of sign and oral language, I selected a small sample of four teachers, the initial plan were to have a sample of eight teachers. Due to constraints of time and the school was facing some problems of teachers not teaching they had a strike, and others were busy with the exams and others were involved in conducting the general elections of the country, it was not easy to have the eight teachers I only managed to have four teachers all the four were from the same school. The four teachers whom I thought were information rich constituted the cases of this study because they were teaching children with hearing impairment in their classes.

### 3.3 Sampling procedure

The sample size in qualitative studies is physically small (Gall et al., 1996) because cases are selected to develop an in-depth understanding of the phenomena. In this study purposeful sampling was used to select the four cases. In purposeful sampling, the main goal is to select cases that are likely to be “information rich” with respect to the purposes of the study. This type of sampling was found more suitable to this study because the participants selected were regarded as information rich and this enabled the researcher to obtain comprehensive in-depth information about the approaches of communication when teaching hearing impaired children. It also helps the researcher to achieve an in-depth understanding of the selected cases, and not merely to select a sample that will represent accurately a defined population. The following stages were taken:

Step I: Describing the criteria of sampling to the school manager in the school.

Step II: Identifying the teachers through the school manager.

.According to Paton in MacMillan & Schumacher (1997), purposeful sampling refers to selecting information-rich cases for study in-depth. Mainly, it is done to increase the utility of information obtained from small samples. For the researcher to get rich and relevant information with variety in the process of investigation, four regular teachers were selected. ”regular here refers to ordinary teachers without special education training. The selection of the sample was based on the following criteria:

- Teachers without special needs background.
- In terms of gender both male and female.
- Regular teachers teaching both the hearing impaired pupils and hearing pupils

- Must be teaching senior grades for over one year with both the hearing and the hearing impaired pupils, senior classes are the ones with hearing impaired children and taught by regular teachers unlike the junior classes they are taught by special teachers at the special unit.
- Different years of teaching experience among the teachers were considered. All the four teachers had 10-25 years of teaching experience.

### 3.4 Research Instrument

An interview guide sourcing information as pertaining to regular teachers' how much knowledge they have on the modes of communication when teaching in classes of regular and hearing impaired pupils was developed.

In-depth interviews were conducted based on the semi-structured and open-ended interview guide. All interviews were taped and subsequently transcribed in their entirety.

The strength of interviews was acknowledged as being the freedom and flexibility to adapt the content (items) and probe in depth on the items. Questioning sequence was flexible since the interview guide was semi-structured. In other words there was no fixed order of the questions as such the interviewer could even repeat the questions for checking the accuracy of the data. Further more, the interviewer could rephrase the questions to suit interview but maintaining the focus of the study.

### 3.5 Pilot test

The main purpose of carrying out a pilot study was to refine data collection plans with respect to the content and the procedures to be followed. Pilot study involves the testing of small-scale procedures that the researcher plans to follow in the main study (Yin, 2003; Robson, 1999; Gall et al 2003). It also helps the researcher to gain confidence in interviewing and identifying possible problems that could affect the collection of valid data. The researcher determines the best way to establish rapport before starting the interview. Robson (1999:242) says, “You don’t become a good interviewer just by reading about it. Skills involved require practice; preferably under low risk conditions where it is possible to receive feedback on your performance.”

The researcher also is an instrument of data collection by carrying out activities in the field interviewing the regular teachers in their respective school.

The pilot study was conducted at the same school where the main study was conducted, but different grade. Two grade ten regular teachers one man and one woman were interviewed. One teacher taught English while the other teacher taught geography.

The pilot was important to test the interview procedure, interviewing technique, establishment of rapport and familiarity with the recording equipment i.e. the tape recorder.

After the interview, the participants were requested to give suggestions for adjustment of the interview guide and the interview procedure. The participants thought the interview guide was appropriate and clear. Therefore all questions were retained.

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The pilot study data was transcribed and shared with the local advisor who made suggestions on how to manage the interviews and keeping them focused.

### 3.6 Interviews

This study was a case study hence it called for the use of qualitative data collection methods such as interviews. Interviews were the main method of data collection. Cohen and Manion (1990) define interviews as involving questioning characterized by conversation for the purpose of obtaining information. Interviews were chosen in this study because they allow probing for more information. This enabled the informants to bring out their inner feelings, thoughts and views (See appendix 7). Thus it was possible to clarify concepts, phrases and items and explore issues in greater depth, for instance terms such as sign and oral language, inclusion etc. Despite the merits of the method, the following limitations were observed.

- Time consuming, on the average one and half hours were used with each interviewee.
- Sometimes the respondents refused to be interviewed when I went to interview him on the scheduled day. I had to get another replacement.
- Sometimes the interviewee gave a mass of unrelated information.

Structured interview guide was framed from the research problem, and 5. Themes were developed from the research problem, and several questions and several questions covering all the areas of interest under each theme were framed. The interview format only served as a guide as research problems were approached differently. The interview guide was phrased in English. The transcribing of interviews was done verbatim, word for word. To ensure reliability a qualified English expert assisted to check the transcription of the data.

#### **Recording the interview**

Though there are various ways of recording interviews, tape recording was considered most appropriate for this study. Tape recording reduced the possibility of my being biased in the selection of data by capturing the interviews wholly. This was helpful for data analysis since the tapes were replayed to establish the facts in the absence of the informants.

Furthermore tape recording enabled the interviewer to pay more attention to the interview, probing and nonverbal language by the informant rather than note taking.

A pocket tape recorder was convenient in terms of transportation and accessibility. Extra tapes and batteries were carried to curb on possible disruptions to the interview process. New batteries and a blank tape were used for each interview to ensure flow of the interview. Notes on facial expressions and gestures used by the interviewee to emphasize a point as well as any other important information relevant for the study were made.

### 3.7 Data collection

Physical and telephone follow ups were made to confirm the interview appointments with each informant three days before the agreed date. Interviews were conducted during the teachers' free time from teaching. Interviews were carried out during mid morning and were conducted in a quiet place where there was no noise they were mostly done outside under a good shade under a tree, sometimes in the office of the school manager herself she would surrender the office. Punctuality was observed by the interviewer in order to maintain trust by the informants. The interviews normally took one hour.

### **3.7.1 Transcription of the interviews**

The interviewer transcribed all interviews word-to-word the same day when the interviews were conducted. Completion of the task was not always possible. Gestures (recorded in field notes), pauses and sound expressions such as eh! Were also transcribed. The interviews were conducted in English.

After each transcription the tapes were replayed for cross checking the transcripts. Help was sought from independent individuals to cross check the transcribed data against the tape recorded data.

The phenomenon in this case was knowledge of sign and oral language by regular teachers. The interview data as already alluded to was analyzed case by case.

Most of the categories and subcategories were based on the interview guide (Appendix 7). In addition some categories, which were not included in the interview guide, emerged from data and were categorized. These included topics like: Motivation, conflicting feeling, reactions of other members of staff towards teaching hearing impaired pupils. The categories were then grouped under themes.

Cross case analysis within the group was made to identify similarities and differences in views between the group.

## **3.8 Permission to conduct the research**

The following discussion attempts to discuss procedure followed; permission to conduct the research, introductory visits, data collection (interviews, ethical considerations and recording of the interviews).

Permission to undertake the study was sought from the Ministry of Education from the District Education Office. A letter from the department of special needs education of the University of Oslo, together with another personal letter asking for permission was presented to the officers (See appendix 1 and 2). Permission was granted, an introductory letter was written explaining the purpose of the study (See appendix 3). The school manager granted permission for this study to be conducted at her school. Follow ups were made physically to the school and appointments were fixed for the introductory visits.

### **3.8.1 Introductory visits**

Introductory visits were made to the school selected for the study. The purpose of the study, which is an investigation on the use of sign language and oral language by regular teachers teaching hearing impaired pupils and ordinary pupils in a regular school, was explained to the school manager and the staff. Regular teachers for participating in the study were identified and appointments indicating dates, times and venues for the interviews were fixed with each. A letter of invitation to participate in the study was addressed through the school manager highlighting the purpose of the study above, assurance of confidentiality and request for the tape recording (See appendix 4), was handed to the school manager.

## **3.9 Ethical considerations.**

Data collection case study research poses various ethical problems (Gall et al. 1996).

Consequently, before embarking on each interview in this study, the purpose of the study was as outlined on the interview guide (Appendix 7). The informants were assured of confidentiality of the information they gave. In addition, the interviewees were assured of the use of pseudo names where need be. The consent of the interviewee was requested before the tape recording of the interviews. Furthermore



the purpose of tape-recording the interviews, which was to enable the interviewer to refer to the data for analysis, was explained to the interviewees. In other words, interviewing and audiotape recording were undertaken with the informants' consent. But some didn't want to be interviewed using the audio tape as a result the interviewer had to make notes during the interview. However this was time consuming since the interviewer had to write all that the informant said. In this particular interview, limitations were experienced on capturing the gestures and facial expressions while at the same time keeping pace with the interview.

### **Recording the interview**

Tape recording was considered most appropriate for this study. Tape recording reduced the possibility of my being biased in selection of data by capturing the interviews wholly. This was helpful for data analysis since the tapes were replayed to establish the facts in the absence of the informants.

Furthermore tape recording enabled the interviewer to pay more attention to the interview, probing and nonverbal language by the informant rather than note taking only. A pocket tape recorder was convenient in terms of transportation and accessibility. Extra tapes and batteries and a blank tape were used for each interview to ensure flow of the interview. Notes on facial expressions and gestures used by the interviewee to emphasize a point as well as any other important information relevant for the study were made.

## **3.10 Validity and reliability of data**

In the following section I have defined "validity and reliability" and also discussed the measures that I undertook to secure and strengthen the level of reliability and validity during the study. I have also discussed some of the factors that could have threatened validity and reliability.

Validity is testing the appropriateness, meaningfulness and usefulness of specific inferences made (Gall et al. 1996). However, in social science, validity refers to whether a method measures what is intended to measure that is accuracy of what was measured. In Kvale (1989: 69), states that, validity in research is:

"....the relevance to desired objectives of given methods, tools, and procedures; more specifically, particularly as a convention in the behavioural sciences, the degree to which a scale measures what it purports to measure...."

In qualitative research, validity can take three forms. These are *construct validity*, *external validity* and *internal validity*. Construct validity refers to the extent to which a measure used correctly operationalise the concepts being studied. External validity refers to the extent to which the findings of a case can be generalized to similar cases or have relevance to the population from which the participants were drawn. Internal validity refers to the degree to which the research findings can be influenced by extraneous variables. (Yin, 1994). In this study "validity" refers to the degree to which the instruments and procedures used in the study managed to get varied and relevant information about the knowledge the regular teachers have on the sign and oral language methodology. How trustworthy were the results? Were the findings "really" what they appeared to be about?

Regardless of how valid the findings of this study are, they are not intended to be generalized to the larger population due the limited number of the sample involved but the information can be used to understand the phenomenon.

According to Yin (1994), the main objective of reliability in research, is to sure that, if a later investigator followed exactly the same procedures as described by an earlier investigator and conducted the same study all over again, the latter should arrive at the same findings and conclusions. In other words, the stability, consistency and accuracy of the measuring instrument. Similarly, Kvale (1989:53) defines reliability as the "*accuracy of operations in the practical and logical procedures*". In this

study, “reliability” refers to the degree to which I tried to minimize error and biases during the study.

During the process of collecting data there were factors that could have posed threats to validity and reliability of the study. Measures that were taken to secure validity and reliability are explained below in relation to identified threats.

During the interview I repeated what each of the interviewees said on a particular theme. This was to make sure that what the interviewee meant was grasped. I also gave time to the informant to think about the question before answering. I did this through careful probes by asking questions like, “Do you have anything else to say? Or “Could you please explain further what you mean? I also nodded my head (non-verbal communication) to encourage the informant to say more on the particular theme.

Another strategy that I used to strengthen validity and reliability of the information obtained was to play back the recorded information to the informants. I requested them to listen and confirm to make amendments if necessary. Similarly after the main interview I normally had some informal discussions with the informants. This gave me an opportunity to get some additional information on the themes. These were not recorded on the tape but I wrote down the notes in the field notebook. To my opinion, this may possibly have improved and strengthened the validity and reliability of the study as some of the informants had a chance to speak out more in a more relaxed manner, than during the interview.

### **3.10.1 Factors that may have threatened validity and reliability of the data.**

Just as much as I tried to make an effort to make an effort to ensure validity and reliability of the data, I feel it is important that I present some factors that may have influenced or compromised the findings. These were:

In the study, I used English Language to interview the teachers. Since this was a second language to all of them, it may have had some limitations to those who would have liked to express themselves in the mother tongue. However most of them would ask clarity if they didn't understand the question for example words like 'acoustic, loop system, manual alphabet etc'.

Finally, since the interviewer is an important tool in an interview, I may have been unconsciously been biased during the interview. For example, giving cues or asking leading questions to some respondents which may have led them to respond in a particular way, and may be not be consistent in the procedure. These could have comprised the results of the study.

### 3.11 Limitations of the study

My 20 years of teaching the hearing impaired pupils, being involved in deaf associations at different levels was both an advantage and disadvantage for me as a researcher.

The advantages were that I was well-known and therefore I didn't have to prove my credentials or the sincerity of the purpose of the study

- Teachers knew me as a person who shared knowledge with them and also listened to their problems, and therefore trusted me.
- The administration welcomed me as they were also confident that I would, through this research help to train their teachers in the modes of communication (sign and oral language) in teaching the hearing and hearing impaired pupils.

The disadvantages were for much the same reasons as the advantages.

- Teachers knew my views on a number of issues, for example on the knowledge on sign language and oral language as a teaching medium to hearing impaired pupils. This could have influenced their answers on the questions related to sign language and oral language
- Teachers may have viewed me as an ‘expert’ and have given more guarded answers.
- Lack of training in special needs could have affected them to give detailed information on the subject.



## 4. Data analysis and presentation

In this chapter data analysis and findings of the study is presented. It begins with an introduction (4.1) in which effort has been made to explain the purpose and objectives of the study. It then proceeds with data analysis and presentation of the findings. Lastly, a brief summary is given.

### 4.1 Background information

The table 4.1 shows the background information for four regular teachers, specified on six categories age, teaching experience, grade they teach, subject they teach, teaching experience of pupils with hearing impairment and professional qualifications. Concerning age, the variation for all teachers ranged between 32 years to 45 years. All were experienced high school teachers in regular teaching none of them have any background of special education except for one who went for a short course in sign language.

Table 1: Teachers` background information

Sub-category	Regular Teachers			
	Kasashi	Liana	Kabwe	Nanas
Age(M)	32	45	45	35
Teaching Experience	10 years	22 years	25 years	20years
Teaching Experience with pupils who are hearing impaired	7 years	3 years	1 year	5 years
Professional Qualification	Secondary School teacher Short course In sign language Interpretation	Secondary School Teacher	Secondary School Teacher	Secondary school Teacher
Grade and subject which is taught	Grade 10-11 Mathematics	10-11-12 Chemistry	11-12 History	10-11-12 Biology

In this study two of the respondents were male and two were female. Their ages ranged from thirty two to forty five years. Regarding professional qualification, all the respondents attended and completed a two years secondary diploma. They were all qualified and certified school teachers and were all specialized in different

teaching subjects. The respondents' teaching experiences ranged from ten to twenty five years teaching regular pupils. Teaching experience of children with hearing impairment ranged from one year to seven years.

## 4.2 In-service training

The new perspective and practice of inclusion may mean substantial changes to teaching. Consequently, teacher training and in-service training is a key strategy to contribute to teachers' knowledge in the teaching of hearing impaired pupils. The main aim of in-service training is to develop what has been termed 'pedagogical intelligence' (UNESCO, 1994). This means giving teachers additional basic theoretical and practical knowledge and skills, to enable them to attend to the needs of diversity, curriculum adaptation and the most relevant educational needs associated to different kinds of disabilities. (Guijaro, 2000). Specialized in-service training should therefore be developed for the regular teachers involved in inclusion programmes for children with hearing impairment.

All the four respondents had similar views on in-service training. They said that, regular teachers should be in-serviced before starting inclusive programmes. This would encourage them to welcome and accept children with hearing impairments in their classes. Below are some of the teachers' responses:

The years of teaching experience is another major factor related to attitudes towards integration? This factor seems to be cross-cultural since it has been found to influence attitudes children with disabilities. According to Berryman (1989); Kapperman & Keller (1994) cited in Center & Ward, 1987, as they become older and gain more experience in teaching, children with disabilities. They add that, these teachers might possibly need additional support if they continue serving children with disabilities in their classrooms. In this study one respondent had teaching experience of teaching hearing impaired pupils ranging from one year to seven years. This could probably be



a negative factor towards inclusion of children with hearing impairments into regular classrooms.

Teachers' qualifications play an important role in providing quality education. This may therefore be yet another factor that can affect teachers' attitudes towards accepting children with hearing impairments in their classrooms. (Nambira, 1994). In this study, all respondents had similar qualifications except for one teacher who went and did a short course in sign language interpretation. This may be positive or negative factor towards inclusion.

The attitudes of teachers towards children with special educational needs should be of prime concern because they can influence the success or failure of inclusion. Because of the importance of teacher attitudes in facilitating or hindering learning, numerous studies have particularly targeted them (Tibebu 1995; Moberg 2000); Larivee (1982) concluded that ordinary teachers' attitudes were related to all of them, (a) the teachers' general philosophy about inclusive education and its impact on the affective and emotional development of the disabled child; (b) the classroom behaviour of the disabled child, (c) the perceptions of teachers of their own ability to teach disabled children; (d) the impact the disabled child has on the classroom management; (e) the impact integration has on the academic and social growth of the disabled child. Panda & Bartel (1972) shows that attitudes of the teachers however, may not be different from the general public, a conclusion supported by studies on attitudes of various professionals working with the disabled

Training of all teachers is the cornerstone for meaning, improvement and reform (Fullan, 1992). The main aim of in-service training is to develop what has been termed "pedagogical intelligence" (UNESCO, 1994). This means giving teachers additional basic theoretical and practical knowledge and skills, to enable them to attend to the needs of diversity, curriculum adaptation and the most relevant educational needs associated to different kinds of disabilities. (Guijaro, 2000)

Specialized in-service training should therefore be developed for the regular teachers involved in inclusion programmes for children with special needs.

The four regular teachers had similar views on in-service training. They all said that, regular teachers should be in-serviced before starting inclusion programmes. This would encourage them to welcome and accept children with hearing impairments in their classes. When asked about them having pupils with hearing impairment in their classes, had this to say:

"If I am trained I am willing to teach these pupils with less difficulties of communication" (Liana).

"I don't have the knowledge on sign language and oral language on how I can teach these pupils effectively, I need to be trained in the methods of teaching these children" (Kabwe).

"Well training is the only solution which can improve our communication with these children I need to know how to teach them using the proper methods no wonder the performance of hearing impaired pupils is low because we do not have the right methods which we use to teach them. I don't know any sign language or the skills in oral language, I can't express myself to make them understand a point, I suggest that sign language should be included in our syllabus." (Nanas).

"We need in-service training its very important if we have to have the hearing impaired children in our classes, we need intensive training in the methods of communication especially sign language we need to visit special classes for hearing impaired pupils so that we can actually see how the special teachers teach them. We need to invite deaf persons to come and train us here at school. We need sign language and oral language to be included in our syllabus so that it is taught as a subject." (Kasashi).

The information from all the four respondents show that the lack of communication skills is the major problem in teaching children with hearing impairment and all of them have emphasized on the need of in-service training.

Comment. Regular teachers need in-service training in sign language and oral language in order to see inclusive education a success. Appropriate preparation and training of all teachers stands out as a key factor in promoting inclusion of children with hearing impairment in regular classrooms. In-service training could possibly be developed at school level by means of interaction with trainers. (UNESCO, 1994; Gow, 1988). Nambira (1994) adds that, teachers need to be trained to be able to carry out the task of integration. In-service programmes could be carried out through seminars, short courses and workshops. In the study, all the respondents expressed opinions that in-service training is an important factor to consider before starting inclusive programmes for children with hearing impairments.

### 4.3 Oral and sign language method

In the oral method, also called the oral-aural method, children receive input through speech reading (lip-reading) and amplification of sound, and they express themselves through speech reading, auditory training, speech, written expression, reading and the use of common gestures. Manual communication can be alternatively used when the oral communication has failed (Moore, 1987). As might be expected, there is great variability within oral method. For example, some programs emphasize the use of residual hearing, others emphasize the use of vision, and others balance the two. Programmatic similarity lies in the prohibition of the use of signs and finger spelling. (ibid).

When further probed on the oral method, how the regular teachers use it when they are talking to all the pupils in class, She further elaborated:

"I talk loud raising my voice high to let those who are hard of hearing hear and I normally stand close to them so that they are able to look at my face when I am talking, I notice that the hearing impaired pupils will all look at me attentively at my face. The use a lot of gestures as well, for example pointing to a map when I m teaching my subject history, I always have a pointer in my hand and stand in a position where they can clearly see the map. He further

elaborated that her teaching aids were big and bright. I also use facial expressions like smiling, laughing when something is funny, surprise, puzzlement or I show pleasure to the listener, I point to the pupils if I want them to come and write something on the board. I try to open my mouth wide when talking I also speak loud and I see those using hearing aids listening attentively even when I ask a question they respond". (Kabwe)

Comments. From the above quotation, it shows that the teacher tries to help the hearing impaired pupils. This is illustrated in line 1, Kabwe says that he talks loud, he stands near the hearing impaired pupils in line 2 and in line 3 and 4 he says that he uses gestures and facial expressions and in line 6 he says he uses big and bright teaching aids.

"Ah I just talk when I'm teaching, and I usually walk round the class when I am reading something while at the same time I explain something from the passage. I just see the hearing pupils staring at me when I move in front of the class and one of the hard of hearing pupils will ask me if I can repeat what I was explaining because they didn't understand anything and he would ask me to be a bit slow when talking and stand closer to them so that they are able to lip-read what I am saying. Sometimes I just see them signing but I don't understand what they are trying to say. The hard of hearing pupil when I ask her she tells me that they are saying that they don't understand what I am saying I am talking too much and fast so every thing is hard for us to understand. Sometimes I just see them walk out of the class one by one they will give me a sign of toilet which I now and they end up going for good. I try to use a lot of chalk board writing so that they are able to read but again I am unable to explain what I write due to lack of knowledge on the methods of communication. I do use gestures like nodding to signify disapproval or approval or encouragement. For instance I move my head side way if I am in disagreement with something and pointing to something, I show facial expressions when the child has done a good thing by smiling to the class when I am talking about something which is exiting and laughing. I don't know anything concerning finger spelling". (Nanas)

Comments. Nanas, In quotation line 3 Nanas says that a hard of hearing impaired pupil will ask her to repeat herself when she is talking and talk a bit slow so that one of them can translate to the other peers. In line 10 Nanas says uses a lot of writing on the board and in line 12 she uses facial expressions and gestures like pointing

etc. Despite the teacher not having any professional knowledge on communication she still tries puts in effort to help the hearing impaired pupils.

"When I speak, I try to be slow I change the rhythm of my voice, I change the speed and my tone of my voice. I use expressions like the head and facial expressions. I show emotions like surprise, anger, joy, and sorrow by means of facial expression. I try to focus my eyes on the hearing impaired pupils when I am explaining something. I also use a lot of pointing to actual objects when I am teaching". (Kasashi)

Comments from the quotation. Kasashi did a short course in sign language, thus in line one his speech is slow, in line 2 he uses facial expressions, emotions of joy, surprise, anger etc. While in line 3 he is able to use eye to eye contact. He also uses alot of concrete objects during his lessons. From this illustration it shows that the teacher tries to use the little knowledge to teach all the children in class.

"About lip-reading this is difficult to say because our classes don't have enough light we depend on natural light so I can say the classes do not have enough light to be seen on the face clearly when you are teaching in class. But I can say that I depend on the hard of hearing pupils who assist me to interpret to their fellow peers. I also use alot of charts and drawings in my lesson, I point at something so that they can see, I gaze my eyes towards a particular child if I see they are doing something wrong or are making noise, I hug them if they work a problem in their books correct, but its had to make these pupils understand because I don't use the right methods when teaching them". (Liana)

Comments from the quotation: Liana. In line 3 Liana says that uses the hard of hearing pupil to interpret when she is teaching, and she uses alot charts and drawings in her lessons. In line 5 she says she gazes at a child if they are misbehaving and in line 6 she says she gives them a hug if they do there work correctly. Despite lack of professional training in the modes of communication Liana tries very hard to the hearing pupils.

Summed up the impression from all the four regular teachers in this study is that they lack the knowledge of sign language and oral language when teaching the hearing

impaired pupils in class. But despite the lack of these professional skills in the methods of teaching, the teachers are putting in a lot of effort to teach the hearing impaired pupils. They do not have sufficient signs to express themselves when they are teaching.

It is important for children with any degree of hearing loss to be assured access to oral language through hearing the speech of their teachers and classmates with as much clarity as possible. The classroom should be soundproofed to achieve the effective use of the hearing aids. When it is noisy outside, hearing aids amplify this sound even more and create chaos instead of activating residual hearing. Most classrooms and the school in general provide an acoustically hostile environment that particularly disadvantages hearing aid users. Facilities like the loop system hearing aids should be fitted in the classrooms, speech trainers or big mirrors should also be fitted in the class for individual speech instruction. All the walls should be decorated with manila cards illustrated with pictures, words and sentences that are used for teaching. All the four regular teachers when asked about the classes being acoustically treated stated that there was a lot of noise coming from outside when they were teaching. The classes are so close to one another pupils from other grades pass through the corridors making noise. The findings of the study illustrated teachers' quotations below:

"Ah these classes don't even have windows, when you are teaching you hear all the sounds coming from outside, you hear vehicles passing, there is a church nearby sometimes people are singing, pupils come to peep through windows, the administration is also so close to the classes, pupils who use hearing aids always complain that they get a lot of noise which interrupts their hearing". (Kasashi)

"What is acoustic? Oh you mean the class being made in a way that it does not allow outside noise? Like the way UTH hearing and speech centre the way it's made, you don't hear any noise from outside. But here we don't have that facility the classes are ordinary classes when you are talking you even get your own feedback. There is a lot of disturbing noise around sometimes we have to go and complain to the senior teacher so that she chases away some pupils standing near the classes making noise". (Liana and Kabwe)

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"There is a lot of noise around and pupils with hearing aids are always complaining that they are not getting what you are saying because of the noise which comes from outside. The classes are ordinary classes the windows are broken there are no fabricators on the walls or ceiling so all the noise from outside is heard when you are teaching, you have to talk very loud". (Nanas)

Comments from the expressions, the regular teachers feel that the infrastructures in regular classrooms were not appropriate for pupils with hearing impairment. They also don't have any idea of some of the electronic equipment used by the hearing impaired pupils for example the hearing aid how it is used; the classrooms were not acoustically treated. From the illustrations all the teachers complained about the outside noise when they were teaching, they said that pupils with hearing aids were complaining that they were getting feedbacks from outside instead of getting what the teachers were saying. All the teachers had the same complaint: In the first quotation Kasashi complained that the classes had no windows as a result there was a lot of noise from outside. Liana and Kabwe too in the second quotation complained that there was a lot of noise from outside. Nanas also had the same complaint of noise from outside.

#### 4.4 Sitting arrangement of hearing impaired pupils in the classroom

The classrooms should be arranged in such a way that all the children can see both the teacher and each other, as hearing impaired children can only communicate with others when they have eye contact with them. To facilitate lip-reading the teacher should sit at low chair so that her/his face is at the same level as the children's faces. Moreover there should be strong light on both the pupils and the teacher, which makes it preferable that the windows behind either the teacher or the children (Sletmo 1997).

When the pupils work in smaller groups, the tables can be arranged in groups that facilitate communication between the pupils. The tables can also be arranged in semi-circle so that the teacher is clearly seen when she/he is talking, she should also sit down so that she is at the same length with the pupils so to allow the hearing impaired pupils see her face when she is talking. This sitting arrangement also known as the horse shoe shaped table is used during instruction to allow the pupils to lip-read each other and the teacher. This will make possibilities for them to lip read the teacher and see the facial expressions and gestures

The classrooms should be provided with notice boards for putting up pictures and texts, and with a blackboard and a flip-over (a sort of easel where you can fasten big sheets of paper with text or pictures). An over head projector is a great help in showing texts and drawings that the teacher has prepared in advance, but it depends on electricity, and a flip-over may serve the same functions. (ibid).

When the informants were asked about the sitting arrangement of the hearing impaired pupils, the informants expressed:

"The hearing impaired pupils group themselves in one corner that's how they sit". (Kabwe).

Another teacher stressed:

"Ha when the hearing impaired pupils sit down you cannot move them they want only one position were they sit together, for example if you want to put them in groups with the hearing impaired they don't want they just want to be on their own". (*Liana*)

When further probed some teachers reported that they move the hearing impaired pupils in front closer to the teacher. This is illustrated in the quotation below:

"I normally bring them in the front row, I change positions for those who are hearing to sit at the back and I bring all the hearing impaired pupils to fill the front desks I use a lot of charts and drawings on the board, when I am teaching my subject history". (Kasashi)



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"I let them sit in their normal position I do not disturb them, but when it comes to certain group work activities I move them because they have to mix with the normal hearing pupils, its not easy to convince them to move but I manage to convince them". (Nanas)

Comments from the quotation: In line 1 Kabwe says that the pupils group themselves in one position, Liana in line 2 quotation, says that the hearing impaired pupils sit together. In line 1 quotation Karachi says he brings the pupils in the front row, as for Nanas in her quotation she says that she does not disturb them from their sitting positions but moves them when its group activities. Despite the teachers not having any knowledge on the sitting arrangement of the hearing impaired pupils, they do not disturb their arrangement of sitting except for Kasashi who tries to bring them in front and Nanas who moves them when it comes to group activities.

According to Lynas (1986), the concept of integration of children with hearing impairments in regular schools means that those pupils are educated together with the hearing ones in regular classes. A regular class teacher's style of instruction

All the four teachers were asked if they use or have any electronic equipment which they use when teaching. The teachers expressed:

"Ah electronic equipment we have never seen any or used any since we started teaching the hearing impaired pupils". (Nanas and Kabwe)

"When I went for a short course in sign language I saw deaf people using certain electronic equipment and when I asked I was told that it was called a loop system which transmitted sound to all those who were hard of hearing. We used the television to watch certain programmes in sign language, a radio was also used, and I was shown different types of hearing aids, but we don't have them here at school. Some pupils do use hearing aids not all of them have them so far I have only seen four pupils wearing hearing aids and not on a daily basis because the batteries run out, I hear they are very expensive and parents can't afford to buy them". (Kasashi)

"I have never seen any electronic equipment apart from a hearing aid which I mistook to be a small radio the first time I saw a hearing impaired pupil using it and I almost told her to take it

out not until a hearing pupil explained to me that it was assisting the deaf pupil to hear".(Liana)

Comments on electronic equipment: In Line 1 Quotation from Nanas and Kabwe express that they have never seen any electronic aid. Quotation from Kasashi in line 1, he says he saw some at sign language workshop, in line 2 he talks about the loop system and the television and in line 4 he has seen different types of hearing aids, and in line 5 and 6 he says he has seen pupils wearing hearing aids. Quotation from Liana, in line 1 says she mistook the hearing aid to be a small pocket radio. From the above quotations only Kasashi has an idea of electronic aids used by hearing impaired pupils.

Information from informal discussions with the school manager also emphasized on the lack of knowledge from regular teachers on the electronic equipment the hearing impaired pupils use, and that they were not available in the school.

## 4.5 Teaching aids/ Provision of resources

The availability of adequate textbooks and other instructional materials has been shown to be one of the most positive and consistent determinants of teachers' willingness to teach as well as pupils' learning achievements (Stubbs 2002).

In answer to the question, "Can you tell me about teaching aids you use in teaching? All teachers indicated that they use many teaching aids according to the subjects they taught but were most dissatisfied with the shortage of teaching aids, they said they didn't have charts like the manual alphabet for sign language, they didn't have the sign language dictionary which could assist them in signing certain words, group hearing aids which can be installed around the table in every classroom mirrors for teaching speech, they didn't have text books with both sign language and ordinary writing.

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In a probing question teachers were asked, “How are you supplied with teaching aids? Teachers revealed that the Ministry of Education was supposed to supply teaching materials but they hardly receive any, as a result it makes the work more difficult for the teachers, they said”.

Teachers were asked how they manage teaching without the supply of the teaching aids like the manual alphabet, sign language dictionary. All the four teachers indicated that they use their initiatives and use local materials to make in order to make lessons interesting and to make the hearing impaired pupils understand what you are talking about and this is done according to the subject you are teaching. This is indicated in the following quotations:

“We do not have appropriate resources to use like the manual alphabet, specialized equipment’ (Kabwe). Another teacher stressed: ‘uum, we don’t have books which have both sign language and ordinary writing to help us when teaching both the hearing impaired and hearing pupils’ (Kasashi). The other two teachers echoed the same sentiments: We don’t have appropriate resources like books, manual alphabet, sign language dictionary and electronic equipment like the loop system, hearing aids for all those who are hard of hearing pupils” (Liana and Nanas).

Comments from the quotation from Kabwe in line 1, says there are no appropriate resources to use like the manual alphabets, specialized equipment. Where as quotation from Kasashi says line 2 and 3 that they don’t have books which have both sign language and written words. Quotation from Liana and Nanas in line 4 and 5 also express the same sentiments of not having resources like books, the manual alphabet, sign language dictionary electronic equipment like the loop system and hearing aids. According to my own experience as a teacher for children with hearing impairments, in addition to books and other instructional materials like books, stationery charts (manual alphabet, maps, specialized equipment etc.), children with hearing impairments integrated in regular schools may require more equipment like hearing aids and a lot of visual aids. Lack of these materials may most likely

discourage the regular teachers from accepting children with hearing impairments into regular schools.

## 4.6 Knowledge about hearing impairment and views about inclusion

When asked about their knowledge with regards to hearing impairment and their views about inclusion, all the four regular teachers who participated in this study reported that they were not knowledgeable in both areas as expressed by one of the teachers,

"I don't have sufficient knowledge but the idea of including pupils with hearing impairment in regular classes is important because it helps these pupils with hearing impairment to be accepted by others , the able bodied will not look down upon the hearing impaired pupils, they will be treated equally, no-one will look down upon them . There is no segregation or stigmatization (Kabwe)".

Another teacher, Liana articulated,

"No, because I am not trained in that". But my views are positive on inclusion in that children are able to understand each other in a sense that even if they have a disability they are still capable of learning and achieve their goals like any able bodied person, also inclusion is a good thing because it actually corresponds with the aim of the school, that is to integrate hearing impaired pupils to society".

Although one of the teachers had participated in a sign language workshop (highlighted in table 4.1), he still felt that he was not knowledgeable. This is expressed in his answer:

"I cannot say I am knowledgeable" (Kasashi). But the idea of inclusion is good it makes all the pupils to be together it enables the pupils to make friends, share ideas and improve performance it helps them to be part of the community and they also have an advantage of peer learning. The only problem is that we are not trained to teach pupils with special needs

especially like the one with hearing impairment you need to have the knowledge of methods to teach them”.

”The other two teachers remarked: I feel that including pupils with hearing impairment in regular classes is rather complicated because it will just extend their psychological problems. I think we have not reached the stage of totally accepting them in regular classes. In terms of language, they will gain a lot from their fellow pupils. I understand what inclusion is and I support it but we need more knowledge. These pupils should be handled by teachers who are trained in special education and they should be in special schools where they have all the facilities. And we don’t have enough knowledge on methods of communication. (Liana). The other teacher remarked: “Some workshops should be planned for us”. Inclusion is a good idea, before children with hearing impairments were subjected to teasing avoiding them, bullying them. I think I support the idea of having these children in our classes, but the only problem is how to teach them we need to be trained on the methods to use”.(Nanas)

Although expressed differently, the general impression from the teachers is that they lack knowledge in the methods of communication but they do have a positive idea towards inclusion of hearing pupils in regular classes. All the four teachers highlighted the social and educational benefits such as learning same materials and being part of the community.

To my opinion all the respondents had good knowledge and understanding of the concept on inclusion of hearing impaired children into regular schools.

## 4.7 Teachers’ motivation

According to Larrivee & Cook (1979 & Thorley & Mills (1986), the success of inclusion depends primarily on the motivation of the teachers dealing directly with special needs of all their students. Motivation is thus a very important factor for teachers to accept the extra responsibilities of inclusion of children with special needs.

Motivation of teachers was strongly emphasized by all the respondents. One respondent said that, teachers should be paid more because having children with hearing impairments meant extra work. Another one said that, for the teachers to use extra time assisting children with hearing impairments in their classes they should be paid extra allowances like their counterparts the special education teachers who get special education allowance. The other respondent added that though there was need to pay the teachers extra allowances in order to be motivated, the best motivation was “self-motivation”. Below are some of the illustrations from the teachers:

“Teachers teaching in these classes with hearing impaired pupils should be paid well, then if we are paid well, then we will be sort of contained and in such a case we will be more available to teach these pupils”. (Liana)

“The government has to pay more if they want better results from us. But the best motivation..... If you get a teacher who is self-motivated.... That’s the best”. (Kabwe)

“The teachers should be paid more because the work... now to train the deaf with others requires more work. And it requires you to spend your own time”. (Nanas)

“A worker who is psychologically happy will always give his best. So in the case of motivation, then I think it should be provided to us to satisfy our needs. It’s not easy to teach these children”. (Kasashi)

One of the most factors for regular teachers to be able to cope with the pressure of fulfilling the demands arising from teaching both children in an inclusive set up, is motivation and improvement of teachers’ working conditions (Nambira, 1994).

In this study, the informants’ sentiments revealed possibly an indication that having children with hearing impairments in regular classes meant having an extra workload. Since both the teaching job itself and the conditions under which the job will be sometimes be performed were difficult, even in the absence of children with special needs, the respondents said that having children with hearing impairments was an extra burden as such they needed to be paid more. In other words, successful

inclusion of pupils with hearing impairment could hardly be achieved if the teachers' conditions of work were not considered. This is an obvious thing in a country like Zambia and in other developing countries where both the working conditions and the living conditions require great struggle for survival as emphasised by one of the informants. Lack of motivation and improvement of regular schools teachers' working conditions could possibly affect negatively their attitudes towards inclusion of children with hearing impairments into regular schools.

## 4.8 Concluding remarks

This chapter presented the problems experienced by regular teachers in teaching hearing impaired pupils with ordinary pupils in inclusive settings. The results of this study were presented from the regular teachers on how much knowledge they have on the modes of communication when teaching pupils with hearing impairments. Direct quotations were used as a way to up lift teachers own voices. A summary of the impression from the findings was given at the end of each category and in the introduction of Chapter 5.





## **5. Discussion of Findings, Conclusion and Recommendations**

The purpose of this study was to investigate how much knowledge the regular teachers had on the modes of communication sign language and oral language to hearing impaired pupils in Lusaka district in Zambia.

The data were collected from four regular teachers; all of them were from one school. In this chapter, a summary of the research findings based on the themes mentioned above is presented.

### **5.1 Communication**

Regarding the methodology used in class when teaching the hearing impaired children, one out of the four teachers had some basics in sign language, as for the three none of them could sign. When asked which methods they used to teach all the three teachers said they used oral language only and that they called upon one of the pupils who were hard of hearing to come and interpret when they were explaining some thing. All the four teachers could not have realized that they had some knowledge on signing and speaking, for example some teachers used gestures like pointing to the pupils to stand up or sit down, facial expressions like smiling or the teacher pulling his face when he was upset.

In oral approach children are taught through speech and lip-reading emphasis, is on amplification on the sounds through hearing aids in oral approach no signing or finger spelling is involved, children can develop a spoken language (Crowther, 2005). In chapter 4.2 quotations from the teachers showed that they try to speak aloud and also by standing close to them when talking. In oral approach those children who are hard of hearing are able to hear through the use of a hearing and those who deaf are

able to lip-read when the is talking, and can only be possible if the teacher provides maximum clarity in talking. Though teachers still need to have methodology in sign and oral language. Oral communication. Sign language is a visual gestural language which involves the use of hands, eyes, mouth, head and body (World Federation for the deaf, 1993). As illustrated in (chapter 4.2), all the teachers used signs to interact with the children, they used gestures, that they there hands when they pointed at the children, they hugged the children if they got their work correct (Sletmo 1997) states that human beings communicate through body contact. Touch for instance, can signify the relationship between individuals, or can be a way of giving encouragement or expressing tenderness.

Teachers used facial expressions to signify pleasure. Haslett and Samter (1997) have also noted that some patterns of facial movements are universal in humans, hence, can easily be interpreted. Eye gazing was also used; eye gaze plays an important role in communicating interpersonal attitudes and establishing relationships (Sletmo, 1997). Eye gaze relies heavily on mutual attention between the interacts. For instance, a teacher's eye gaze towards a particular child during an activity can serve as a way of controlling both negative and positive behaviour for the child. In my findings head nodes were also used, signifying approval and disapproval or encouragement. Head nods are normally accompanied by wide-eyed gazing.

Sign language is one of the systems mostly used interaction with or by persons who experience difficulties in the findings from the study conveyed positive results despite the teachers being unskilled in proper methods to use, sign language and oral language was a practical barrier towards willingness to teach the hearing impaired in their classes. Since communication and language are inevitable and essential tools in learning and cognitive development of a child, then consideration should be made to in-service regular teachers on the methodology of sign language and oral language, for effective and successful inclusion. This could be held in well established special

schools and units or through seminars or workshops organized by special needs educators for these teachers.

## 5.2 Teaching aids/Provision of resources

Findings in this study show that teachers did not have enough teaching aids for example they didn't have the manual alphabet, sign language dictionaries, text books with illustrations in sign language, speech mirrors, radios, hearing aids etc. In acoustically unfriendly environments everyone struggles to hear, handouts (and appropriate text books) help students to keep track of each stage of the lesson. Support pictures, maps or diagrams, the teacher pointing or gesturing to reinforce meaning will help children with hearing impairments learn in line with others. According to UNESCO (1992) the availability of adequate text books instructional materials has been shown to be one of the most positive and consistent determinants of teachers' willingness to teach and pupils' learning achievements. Provision of adequate books, teaching and other learning materials is therefore very important.

## 5.3 Classroom Acoustics equipment and materials

Measurement of classroom acoustics indicated that classrooms were very noisy the whole day. The noise was created by the simultaneous talk of children, a church nearby where prayers and singing would be taking place during times when classes were in session, the movement of furniture, and outside noise (e.g., other classes when other teachers are teaching, vehicles passing the school is near the main road). Pupils who used hearing aids got a lot of feedback from their hearing aids, it distorted their communication. Oral language and communication access for the hard of hearing children was affected.

Whereas certain classroom acoustic conditions can be improved by using wood or mats on the walls or wall tiles to reduce the reverberation and background noise, the noise level created by children and vehicles, other teachers teaching seemed much more difficult to control (Tucker & Nolan, 1984). The impact of external conditions (noise, reverberation, distance poor speaker articulation, etc.) are much greater, and more unpredictable, upon hard of hearing people than upon those with normal hearing. The communication that breaks down that occur are therefore, often thought to be inattention. The consequences of this misapprehension is that hard of hearing people are often ridiculed, objects of derision, demeaning jokes and comments or, what is perhaps even worse, simply ignored (Ross, 2000).

The classrooms assessment in this present study revealed excessive reverberation (echo), which is the prolongation of the speech signal due to reflections of sound from the surfaces of the walls, ceiling and floor. Foster (1998) propose that while all children have difficulty hearing in poor acoustic environments, children with hearing loss especially those using hearing aids had significantly greater difficulty than children with normal hearing. This finding is in agreement with other studies arguing that as hearing difficulties increases, the child might expend more effort to hear. When the effort becomes intolerable, the child might refuse or give up to participate in activities or to interact with others in class. The more frequently this would occur, the less likely it is that the child will be engaged in learning. (Johnson, 1999, Ross, 2000).

## 5.4 Sitting arrangement in class

Children with hearing impairment should be assigned to sit in a semicircle (See appendix 6). This is to enable them see the teacher clearly on the face as she is talking, this will enable them to lip-read the teacher and participate in class discussions and class activities e.g. hearing impaired are able to ask questions in this sitting arrangement. Semicircle sitting arrangement has a positive effect on children's

question-asking unlike the way they sit (row-and column arrangement deserves further consideration as a means to promote hearing impaired children's participation in the classroom (Sletemo, 1997).

As indicated in chapter 4.3 findings revealed that the teachers had no knowledge on how hearing impaired pupils should sit in class the pupils sit own their own the teachers have knowledge on the importance of sitting of hearing impairment children in class one teacher (Kasashi in his quote he says) "I normally bring them in the front row I change positions for those who are hearing to sit at the back and I bring the hearing impaired to the front desks". Though not exactly the normal sitting arrangement the teacher tries to make the hearing pupils be closer to him to and they are able to lip-read what he is saying (ibid).

## 5.5 Knowledge about hearing impairment and views about inclusion.

The term inclusion is defined as a reform movement that seeks to displace the principle of segregation of the least restrictive environment. The least restrictive environments' philosophy allows a school system to place all children in regular classes. It provides support services and aids with specially designed options for matching individual ecosystems with school resources (Mittler, 2000). Inclusion education provides a favourable setting for achieving equal opportunities and full participation. In relation to children with hearing impairments, inclusion could as well be referred to as, the education placement in regular schools that may allow for the creation of friendly atmospheres among children.

Moberg (2000) in his study on the development of teacher perceptions in Finland, found that Finnish teachers' perceptions of inclusive education are multidimensional and remain still rather negative, although the policy of inclusion has been officially approved and supported since the 70s. However, he noted some changes in attitudes

toward inclusion, indicating more willingness among teachers to take students with special educational needs to their classroom more than 20 years ago.

The results from the study revealed that, all the respondents had a good knowledge and understanding of the concept 'inclusion'. In relation to children with hearing impairments, they said that they didn't have the methodology of teaching these children, they said didn't have the knowledge of teaching sign language and oral language. However, though the teachers had a good theoretical knowledge of the meaning of the 'concept' of inclusion, and were positive towards inclusion of pupils with hearing impairment in regular classes they had a problem of teaching them.

## 5.6 Motivation

Regarding teachers' working conditions, all the four respondents did emphasize that if teachers teaching an over seeding number of children in classes, with a curriculum which has to be followed strictly, then it would possibly be difficult for them to have time to attend to individual children with special needs. Research evidence is there that willingness of teachers to have children with disabilities in regular classes is considerably influenced by the size of the class and workload. (Chorost, 1988). Classes which are overcrowded, children with disabilities may not benefit much because teachers may not have adequate time to give individual assistance. For example, the national average ratio of teacher-children is about one to fifty in Zambia. To make inclusion effective and successful, then number of pupils in regular schools should be reduced to less and favourable teacher-children ratio. The curriculum on the other hand should not be reduced or changed but should be flexible and adapted to meet the children's needs. Selecting the curriculum content for an individual with special needs should be based on individual's learning needs. This means that, the national curricula should be formulated in such a way that, meaningful participation is possible by all children regardless of their individual characteristics and needs. The curriculum should be one in which all children could

participate, otherwise it may be counterproductive and unsuitable for any meaningful integration. (Dyson & Millward, 2000).

Lack of attention for teachers' well being has also been a great hindrance not only to the education of children with special needs but also to all children, in general. Responses from the 4 teachers showed that, they were not satisfied with their working conditions and remuneration. They said that, teachers are the most lowly paid and this lowers their working morale. As Larrivee & Cook (1979) found out in their study, success of integration of children with disabilities depends primarily on the motivation of teachers dealing directly with special needs of all their children. Motivation of teachers and the improvement of working conditions and well being may improve their initiative and willingness to accept and work with children with disabilities. Since, both the teaching job itself and the working conditions under which this job would be performed are difficult, even in the absence of children with special needs, the teachers said that, having children with disabilities in their classes is an extra burden and hence the need for improvement of terms and conditions of service. This is so in a country like Zambia and many other developing countries where teachers' working and living conditions require great struggle for survival as emphasized by one of the respondents who said this:

"you have been a teacher....you know how our working conditions are and the kind of life teachers are leading.... Very tough and miserable and cannot make ends meet.... We leave on borrowing from others and when the month end reaches we have to pay back what we borrowed and we remain with nothing...." ( Kasashi)

In Zambia all teachers with special education training, working in special schools and units for children with special needs get special education allowance on top of their salaries than their counterparts in regular schools teaching special needs children. Similar allowance could possibly be given to teachers in regular schools, with inclusive programmes in order to motivate them

Another area of concern for making inclusive education effective as mentioned by all the teachers is teachers' in-service training.

## 5.7 Summary of recommendations:

In the light of the findings of this study, many recommendations have been made.

However, according to my knowledge about the availability of some of the resources in the country some may be just theoretical.

- In order for pupils who are deaf to benefit like the so called 'normal' hearing in class its important that the government strengthens the training and the empowerment of regular teachers in sign language skills and knowledge.
- There is need for provision of seminars and short courses for the regular teachers on the education of pupils with hearing impairments.
- There is need for development of sign language syllabus and introducing it to be taught as a school subject for all the pupils in school. This is to enrich and promote dialogue, communication and make inclusion practical for children with hearing impairment.
- To involve the Zambia National Association of the Deaf (ZNAD), in teaching sign language in schools. (ZNAD is an association of deaf adults who are members of the Deaf community whose "mother tongue" is sign language. Similarly, more interpreters need to be trained and placed in schools, colleges and other institutions of higher learning.
- To introduce special education in the teacher training programme. It should be general rather than specific, in order to produce teachers who can work with different categories of children with disabilities in regular schools.



- Modification of the classrooms should be made to improve the acoustical environment. Where possible soft materials or boards should be placed on the floor and the tables and chairs be fixed with rubber or leather stripping and kept close to eliminate noises.

Many children who are hard of hearing function as deaf in class because of environmental barriers. The school environment is not friendly to those who use amplification devices. Poor acoustics and lack of resources for the improvement as well as hearing aids leaves to be desired.

## 5.8 Concluding remarks

The findings of the study revealed that the regular teachers who participated in this study seemed to support the idea of inclusion. However all regular teachers who participated in the study raised concerns with regards to the practical implementation of inclusion. In this study, the following factors which were raised were lack of knowledge on the methods of communication when teaching the hearing impaired pupils, lack of in-service training in special needs education, provision of teaching and learning materials for example, text books, charts, maps, the manual alphabet classroom environment not conducive for hard of hearing impaired children has to be acoustically treated to prevent outside noises they enough light so that children who are hearing impaired are able to lip-read what the teacher is saying on the face, and .hearing aids etc. Implementation of inclusion of children with hearing impairment without considerations of the raised concerns in less supportive teachers' attitudes towards the process.

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## Appendices

### Appendix 1 A Letter Of Cooperation From the UIO



**UNIVERSITY  
OF OSLO**

**Department of Special Needs Education**

P.O.Box 1140, Blindern  
N-0318 Oslo  
NORWAY

Your ref:  
Our ref: 13/06 BHJ/db  
Contact person: Denese Brittain [d.a.brittain@isp.uio.no](mailto:d.a.brittain@isp.uio.no)

*Visiting address:*  
Helga Eng's Building  
3rd and 4th floor

Date: June 21. 2006

Telephone: + 47 22 85 80 59  
Telefax: + 47 22 85 80 21

**FACULTY OF EDUCATION**

#### TO WHOM IT MAY CONCERN:

This is to certify that **MALUNGA, Tiyera**, date of birth 21.11.1962, is a full-time student pursuing a course of study at the Department of Special Needs Education at the University of Oslo, Norway, leading to the degree of Master of Philosophy in Special Needs Education (M. Phil. SNE).

This is a continuous two-year programme run on the "sandwich" principle, which involves periods of study and field work/research in both Norway and the home country. The student has concluded the initial 11-month period in Norway and will be returning to the home country in July 2006 to continue full-time studies/research until 1 January 2007 when s/he returns to Norway for the final part of the degree. The period of study will be completed at the end of May 2007.

The main responsibility for supervising the research, developmental work and thesis remains with the Department of Special Needs Education, University of Oslo, Norway. However, we would kindly request that the relevant authorities give the student the access required to the schools and educational establishments necessary in order to undertake field work and research. We would also be most grateful for any assistance that is afforded to the student which enables her/him to carry out this work, particularly the use of facilities such as access to telephone, fax, e-mail, computer services and libraries at the various educational establishments.

Yours sincerely

Associate Professor Berit Helene Johnsen (dr.scient.)  
Academic Head of International Master's Programme  
Department of Special Needs Education

Department of Special Needs Education  
Faculty of Education  
University of Oslo, Norway

Institutt for spesialpedagogikk  
Det utdanningsvitenskapelige fakultet  
Universitetet i Oslo  
Norge



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## Appendix 2 Request of permission to conduct research

**Tiyera Malunga**  
NISTICO  
Chalimbana  
Lusaka

31<sup>st</sup> July, 2006.

The Provincial Education Officer  
Lusaka Regional Headquarters  
Private Bag RW 21E  
Lusaka.

Dear Sir/Madam

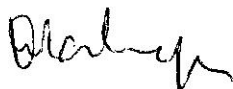
**RE: REQUESTING FOR PERMISSION TO CARRY OUT RESEARCH AT  
MUNALI HIGH SCHOOL LUSAKA.**

I am a full-time student pursuing a course of study at the Department of Special Needs Education at the University of Oslo, Norway, leading to the Master of Philosophy in Special Needs Education (M. Phil. SNE ).

As you will notice by the attached University correspondence, part of my study require that I conduct a research in my country of origin, thus, in light of the above I wish to request for permission to carry out research on the use of sign and oral language at Munali High School.

I thank you in anticipation for your kind assistance and usual cooperation.

Yours faithfully



**TIYERA MALUNGA**

## Appendix 3 Letter of permission from the Ministry of Education

*All Correspondence should be addressed to the Provincial Education Officer*

*Telephone: 250655*



*In reply please quote:*

*No. ....*

**TS:580412**

### REPUBLIC OF ZAMBIA MINISTRY OF EDUCATION

PROVINCIAL EDUCATION OFFICER  
LUSAKA REGIONAL HEADQUARTERS  
Private Bag RW21E  
LUSAKA

31<sup>st</sup> July, 2006.

The Head teacher,  
Munali Girls High,  
**LUSAKA.**

Dear Madam,

**Re: INTRODUCTORY LETTER: MALUNGA TIYERA: TS: 580412**

This is to introduce to you the above named officer, who is a lecturer at NISTCOL but currently studying at the University of Oslo in Norway.

She would like to carry out some Research in the Special Unit especially the deaf. She would also have some kind of interaction with the teachers that teach the deaf children.

Your usual co-operation will be highly appreciated.

P.W. Mufwambi

Senior Education Standards (SP.ED)

**For/ACTING PROVINCE EDUCATION OFFICER  
LUSAKA PROVINCE**

*ATM*  
*A Head.*

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## Appendix 4 Request for Interview

**Tiyera Malunga**  
NISTICO  
Chalimbana  
Lusaka

**The School Manager**  
Munali High School  
Lusaka.

31<sup>st</sup> July, 2006.

Dear Sir/Madam

### **RE: REQUEST FOR INTERVIEW – MUNALI HIGH SCHOOL**

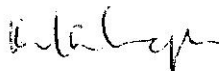
Reference is made to the attached University correspondence from Oslo. As you will notice, I am a full-time student pursuing a course of study at the Department of Special Education at the university of Oslo, Norway , leading to the degree of Master of Philosophy in Special Need Education (M. Phil. SNE).

In view of the above, I am requesting you to help me with information concerning the methods of teaching the hearing impaired pupils (sign and oral language). This study is a requirement of my studies at University of Oslo, therefore, am interested in getting a lot of information in this area.

Kindly be assured that information gathered will be treated with utmost anonymity and confidentiality.

I thank you in anticipation for your kind assistance and cooperation.

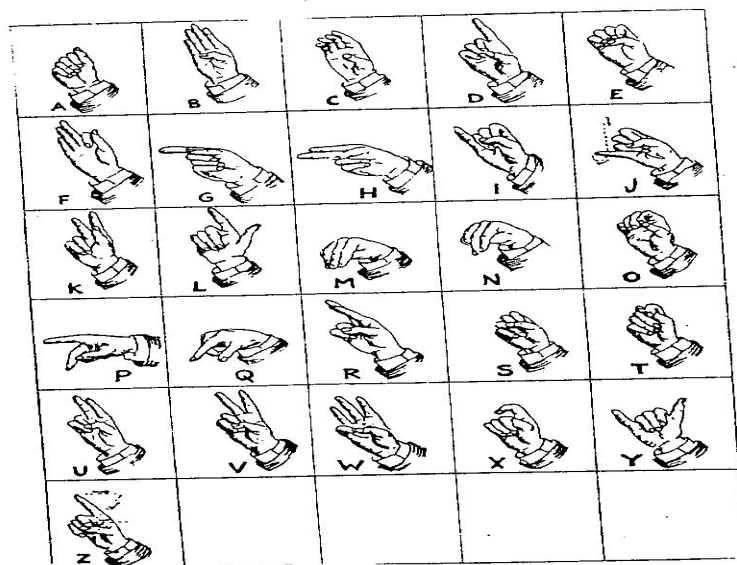
Yours faithfully,



**TIYERA MALUNGA**

## Appendix 5 American One-handed manual Alphabet

Appendix 5.4 American one-handed Manual alphabet



## Appendix 6 Sitting arrangement for Hearing Impaired pupils

help in making a new child  
new surroundings, and it is  
oil 'brother' or 'sister'  
about his obligations to  
resent when the child comes  
new with the child's  
older children in both  
, and you may see that  
om their older friends.  
the teacher does not know,  
s it is part of their  
community at the school.

and the classroom

of children should be  
eeds.

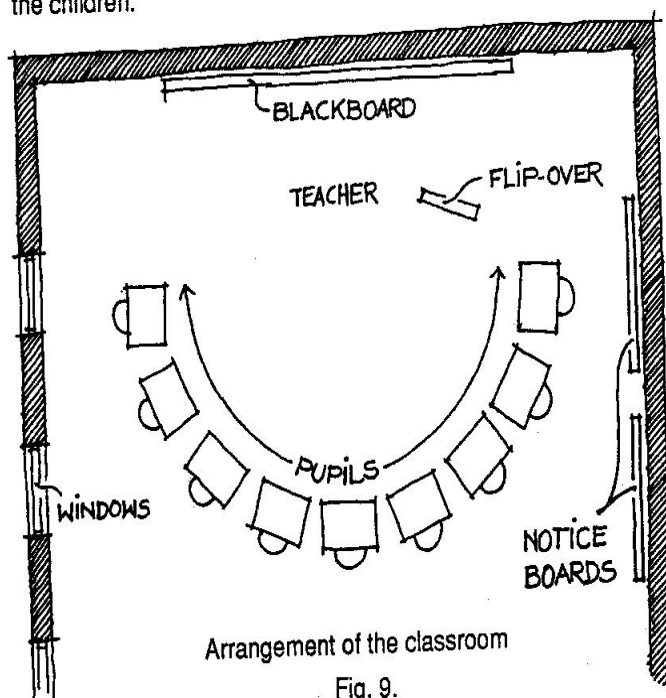
ly less aware of what goes  
the world at large, it is  
the walls. A couple of  
ity when the school is  
. A camera permits you to  
is and the staff from  
their names written  
the way of making deaf  
to have a name. You can  
children see on  
f important events like  
photos make it much easier  
they have seen.

s from their home towns or  
ountries and their people  
ren's knowledge. Such  
old of, but any pictures'  
and magazines and drawings  
ls.

arranged in such a way that all  
her and each other, as  
ate with others when they  
means that there should  
ass. To facilitate  
I sit at a low chair so that

her face is at the same level as the children's faces.  
Moreover, there should be strong light on both the pupils  
and the teacher, which makes it preferable that the windows  
are not behind either the teacher or the children. The best  
way to arrange the classroom is shown in fig. 9.

When the children work in smaller groups, the tables can  
be arranged in groups that facilitate communication between  
the children.



Arrangement of the classroom

Fig. 9.

The classrooms should be provided with notice boards for putting up pictures and texts, and with a blackboard and a flip-over (a sort of easel where you can fasten big sheets of paper with text or pictures). An overhead projector is a great help in showing texts and drawings that the teacher has prepared in advance, but it depends on electricity, and a flip-over may serve the same functions.

With hearing children you can easily tell them something about a picture in their textbooks while each child looks at the picture in his own book, because hearing children can listen to the teacher without looking at her, but deaf

## Appendix 7 Interview Guide for regular Teachers

### Interview guide for regular teachers

As informed in the letter I sent to you, I am a student at the University of Oslo studying a Masters degree in Special Needs Education. My area of interest is in the teaching of hearing impaired pupils in your class. I would like to interview you and find out which mode of communication you use when teaching these pupils and how much knowledge you have on these mode of communication, and your views on inclusion of these pupils in regular classes and your attitudes towards these pupils. I tape record the interview and transcribe your comments to enable me to refer to them when I analyze the data, is okay for you? The results of the study will not affect you and your work. The information that you give is specifically for the purpose of this study and will be treated with utmost confidentiality.

### Section A

#### Interviewees' Background

1. How old are you?
2. Tell me about your teaching profession?
3. For how long have you been teaching?
4. How long have you been teaching at this school?
5. For how long have you been teaching pupils with hearing Impairments?
6. Which subjects do you teach?
7. Do you have any training in special education? If yes which type of Of training (full time, in-service, or workshops, seminars).

### SECTION B

#### Modes of communication

8. Can you tell me the methods you use when you are teaching? If you do which methods do you use?
9. Amongst the hearing impaired pupils don't you ask who is hard of Hearing to help in interpreting what you are saying?
10. What do you mean by hard of hearing? You mean one who can hear partially? Do you have any knowledge on sign language and oral language?
11. Do you use any gestures, like pointing to an object, or do you use

Demonstrations, natural signs, abstract signs, sound, speech, lip reading, eye contact or writing?

12. How is your flow of speech do you speak loud with clarity?
13. Are the pupils are able to lip read you when you are talking? And they able to see your face clearly, do you stand in front in one position in class or you around when you are talking?
14. How is the social interaction with the hearing group?
15. How is the sitting arrangement of hearing impaired pupils in class?
16. What is their performance in class?

### **Classroom accoustics,equipment and materials**

17. Are the classrooms acoustically treated? (By this what I mean is if the walls and floors of the classrooms are fabricated not to allow out side noise to disturb those who are hard of hearing who could be using hearing aids, they can be getting feedback of noises from outside which could disturb them).
18. Do you have enough lighting system?
19. How many pupils use hearing aids? Do they wear them all the Time?
20. Do you use any other electronic equipment for communication?
21. What about the manual alphabet do you have it in your class?

### **Veivs about Inclusion of hearing impaired pupils**

22. How do you view inclusion?
23. Do have any suggestions which you think can improve the teaching Of pupils with hearing impairments in regular classes?
24. Is there anything else you would like to add on to what you have Said so far?  
Thank you for participating in this study. Should you have more information to tell me, please feel free to contact me.